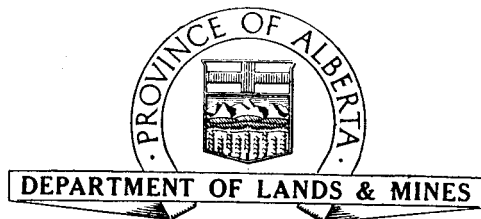


ANNUAL REPORT
OF THE
Department of Lands and Mines
OF THE
PROVINCE OF ALBERTA
FOR THE
Fiscal Year Ended March 31st
1944

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY



EDMONTON:
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1945

*To the Honourable J. C. Bowen,
Lieutenant-Governor of the Province of Alberta.*

SIR:

I have the honour to submit the report of the Department of Lands and Mines for the fiscal year ended March 31st, 1944.

I have the honour to be, Sir,

Your obedient servant,

N. E. TANNER,

Minister of Lands and Mines

Edmonton, March 7th, 1945.

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GOVERNMENT OF ALBERTA
DEPARTMENT OF LANDS AND MINES

Resulting from the transfer on October 1st, 1930, of Alberta's natural resources from federal to provincial control, the Department of Lands and Mines was on this date brought into being by the Alberta Government. The general purpose of the new Department was to be one of supervision and management of the resources in question.

Ministers of the Department, responsible at different periods for this administration, appear as follows:

Hon. R. G. Reid, appointed October 2nd, 1930,

Hon. Hugh W. Allen, appointed July 10th, 1934,

Hon. Charles C. Ross, appointed September 3rd, 1935,

Hon. N. E. Tanner, appointed January 5th, 1937.

CHIEF OFFICERS
DEPARTMENT OF LANDS AND MINES

March 31st, 1943

Honourable N. E. Tanner	<i>Minister of Lands and Mines</i>
John Harvie	<i>Deputy Minister of Lands and Mines</i>
T. C. Rankine	<i>Departmental Solicitor</i>
V. A. Wood	<i>Director of Lands</i>
M. Gossip	<i>Agent, Calgary Land Agency</i>
R. Cruickshank	<i>Agent, Peace River Land Agency</i>
H. H. Somerville	<i>Assistant Superintendent of Mining Lands</i>
H. Ingrey	<i>Inspector of Mining Rights</i>
T. F. Blefgen	<i>Director of Forestry</i>
E. S. Huestis	<i>Acting Assistant Director of Forestry</i>
F. W. Neilson	<i>Chief Timber Inspector</i>
A. Earnshaw	<i>Radio Superintendent</i>
E. S. Huestis	<i>Fish and Game Commissioner</i>
D. E. Forsland	<i>Superintendent of Game</i>
H. B. Watkins	<i>Superintendent of Fisheries</i>
T. W. Dalkin	<i>Superintendent of the Technical Division</i>
J. L. Crawford	<i>Chief Inspector of Mines</i>
E. R. Edwards	<i>Acting Accountant</i>

SPECIAL AREAS BOARD

Head Office: Hanna, Alberta

M. Baldwin	<i>Chairman</i>
D. M. Graham	<i>Secretary</i>
J. R. McBeath	<i>Member</i>
J. H. Todrick	<i>Supervisor, Edmonton</i>

SPECIAL DISTRICT AGENTS

D. M. Graham	<i>Hanna</i>
R. B. Langley	<i>Oyen</i>
D. J. Wilson	<i>Consort</i>
A. D. McIntyre	<i>Lomond</i>

THE PETROLEUM AND NATURAL GAS CONSERVATION BOARD

Head Office: Calgary

Dr. E. H. Boomer	<i>Chairman</i>
G. W. Northfield	<i>Member</i>
M. D. Kemp	<i>Member</i>

REPORT

OF THE

Department of Lands and Mines

1943-44

*Honourable N. E. Tanner,
Minister of Lands and Mines,
Edmonton.*

SIR:

I have the honour to submit the fourteenth Annual Report of the Department of Lands and Mines for the fiscal year ended March 31st, 1944.

Increases in revenue are shown in various branches, but there has been a slight drop in the production figures mainly due to the manpower shortage.

When the resources were administered by the Department of the Interior, licenses to cut timber were sold and it was a condition of the sale that dues as prescribed by the Governor in Council would be payable on the lumber cut from the berth. When the resources came under the administration of the Province it was ascertained from the records transferred that there were license berths granted as early as the "eighties" on which very little operations, if any, had been conducted. In fact, some of these license berths had been bought for a nominal sum and, under the regulations in force at the time of the transfer, the dues set by the Governor in Council were one-third of the rate that was payable on the timber cut under permit. The Province took action in 1940 for operations on these license berths and, as it was felt that there was great disparity between the rates for license berths and permit berths, it was decided to increase the dues that would be payable on license berths.

Action was at once instituted in the Courts by Anthony et al against the Province in an attempt to keep the Department from increasing the dues on the timber cut from license berths. The action was commenced in the lower Courts and was carried through to the Supreme Court of Canada, and in each court the decision was unanimous and in favour of the Province. An attempt was made without success to carry an appeal before the Privy Council.

Under the decision, the Department may increase the dues payable on the timber cut on those old license berths so long as the dues cannot be considered as prohibitive.

DEPARTMENT'S REVENUE AND PRODUCTION, 1943-44

The surplus on income of \$1,959,877.65 is again the highest, an increase of \$13,667.06 over last year's record. The total cash received from all sources was \$4,504,913.73.

Increases in revenue are shown by the School Lands Branch \$83,713.22, the Timber Branch \$68,934.16, and the Game Branch \$14,948.46. The total expenditure on income account amounted to \$861,907.08, an increase of \$54,958.67 over last year, due in part to additional salary expenditures of \$43,151.31, increased grants for coyote and wolf bounties of \$26,970.40 and travelling expenses of \$15,926.83. To partially offset this, there was a decrease in the amount of

wages paid of \$11,471.96 and firefighting costs of only \$18,887.82, almost half of the costs of the previous year.

LANDS ADMINISTRATION

The granting of homesteads was discontinued in the year 1939 when the Government initiated the agricultural lease programme. The giving of lands as homesteads, leaving to the individual the choosing of the land had left a great deal to be desired, and was in fact the cause of so many failures. A substantial number of agricultural leases have been issued and there have been very few cancellations as the tenant is protected against tax arrears and crop failures.

Looking towards the rehabilitation of veterans from the armed forces, the Government has made certain representations to the Director of The Veterans' Land Act. Several problems relating to procedure of settlement, responsibility, leasing arrangements, rate of settlement and soil surveys are still matters of negotiation. To meet these requirements the Government has placed under reservation all of the vacant Provincial lands.

Amendments to Act.—During the fiscal year The Provincial Lands Act was amended granting the Minister authority to enter into an agreement with the Federal Government in connection with Provincial Lands for the re-establishment and rehabilitation of Members of His Majesty's Forces. Under this agreement certain areas are to be set aside for the re-establishment of veterans of the present war.

Another amendment to the Act authorized the sale of surface rights on Provincial lands to lessees of mining rights at the actual value of the lands irrespective of the mining value.

Soil Survey Inspections.—Considerable difficulty was experienced in obtaining suitable men for this work, and this accounts for the small area, only 1,354 quarter sections, covered.

Field Inspection Work.—During the year an inspector was appointed to interview lessees and purchasers and collect outstanding crop shares in connection with Cultivation and Grazing Leases, Accrued Area Leases and Sales. This was done as an experiment and has proved a very satisfactory and needful service.

Grazing Reserves.—There are eleven of these reserves now in operation with two in the formative stage. The Vauxhall Reserve, which is the largest, covers an area of 165,000 acres. This reserve is looked after by a Departmental Caretaker. At least five men have been continuously employed for the repair and erection of fences, and tests are under way for the drilling of artesian wells. A full description of the other grazing reserves will be found in the report of the Director of Lands.

FOREST SERVICE

Timber losses from fire were the lightest in years, and this was a matter of great satisfaction to the Department. The shortage of man-power made the securing of adequate ranger personnel very difficult, and most of the reserves and fire ranging districts were understaffed.

The death of Inspector H. D. Macdonald in charge of the Grande Prairie Division was a matter of deep regret to the Department. He had been with the Forest Service for a number of years, and was a valued employee. Mr. Harper Morden, another Timber Inspector, resigned on account of ill health, and Inspector Charles Hughes was granted leave of absence to take up his duties with the Canadian Army Overseas. This meant the appointment of three new inspectors from the Ranger Staff and the transfer of junior inspectors to larger and more important districts. The game and trapline administration made it possible to retain the services of the Rangers on a yearly basis. This amalgama-

tion of forest and game for Ranger personnel has worked very satisfactorily, and it is hoped that the policy will continue.

Ranger Schools were held in the spring of 1943 as an experiment, and they proved so successful that it was decided to continue them annually.

Two schools each lasting for three days were held in March, 1944, one in Westlock for the N.A.F.D. Rangers and on the following week in Calgary for the Forest Reserves staff.

Radio.—Work of this Branch for the year consisted mostly of maintenance. Due to the scarcity of new equipment it was not considered advisable to attempt any expansion, and with the exception of eleven portable Radiophones for ranger use, no new equipment was purchased.

In addition to the regular inspection and repair trips, the Radio Superintendent travelled 1,500 miles by air in reconnaissance of new lookout sites. This method of locating suitable sites for towers has proved extremely satisfactory and cuts the ground work to a minimum. The Department is indebted to the Manager and staff of No. 2 A.O.S. of Edmonton for the use of aircraft in this work.

Due to enlistments and resignations, practically the entire field staff had to be replaced with new personnel, which entailed a great deal of training by the senior staff. A number of girls are now being trained as operators for headquarters stations and some of them are showing marked aptitude for the work. Some experimental work was done during the year on ultra high frequency equipment. Units embodying recent discoveries in this field are under construction, and we expect further research will be carried on during the coming year. The extreme shortage of suitable material and parts is also a great handicap in this work.

Timber Industry.—The total lumber manufactured was 46,295,433 FBM less than for the previous fiscal year. This is no doubt due to the labour shortage, but the amount of revenue from this branch has increased by \$68,934.16 owing to the fact that a greater number of small berths are being operated.

LUMBER MANUFACTURED FROM TIMBER CUT ON PROVINCIAL AND
SCHOOL LANDS AND ON FOREST RESERVES

Fiscal Year	F.B.M.
1935-36	89,919,530
1936-37	104,492,420
1937-38	146,301,510
1938-39	122,450,579
1939-40	131,497,021
1940-41	185,752,504
1941-42	272,345,129
1942-43	228,703,425
1943-44	182,407,992
Total	1,463,870,110

FISHERIES

A more prosperous situation for the commercial fisherman was experienced in the fiscal year ending March 31st, 1944, than for many years. The export demand was exceptionally good with higher prices.

The problem of fish infestation is rapidly coming to a head. Discussions have taken place with the administrations directly concerned during the year, and it is expected that the necessary machinery will shortly be set up to control and prohibit the marketing of fish below an approved quality. Continuing last year's programme biological surveys of certain waters were undertaken by Dr. R. B. Miller, of the University of Alberta, assisted by Fisheries personnel. A short summary of his observations may be found in the report of the Superintendent of Fisheries.

Game Fishing.—Trout fishing generally throughout the Province improved during the season and provided the major sport for anglers. The water became

very low in many streams outside the Forest Reserves during the month of August, and it was feared disaster faced the trout population. Uncounted numbers were rescued and transferred to flowing water.

The Pincher Creek-Crowsnest district was worked over energetically all season and had the finest Rocky Mountain Whitefish take in fifteen years.

Lesser Slave Lake Hatchery.—At the whitefish spawning camp on Utikuma Lake the traps and retainers were installed in October and the first collection of eggs arrived at the Hatchery on November 6th. When sufficient numbers were taken to meet the proposed distribution schedule for the season the spawning camp was closed.

Calgary Hatchery.—During the year this hatchery was operated to maximum capacity and distributions were made with minimum losses. A new addition was constructed by Mr. James Cross of the Calgary Brewing and Malting Co., Limited, and has proven of immense value. Mr. Cross's interest and help is something for which this Department and the anglers of the Province will always be grateful.

A number of rearing ponds were in use during the year, those sponsored by the local Fish and Game Associations making a very creditable showing in the number of trout released.

GAME

During the year the Game Branch has recorded continued progress in spite of the fact that the quantity of some furs has decreased. The wild life of the Province has been steadily increasing, and the general public are beginning to realize that the Regulation and Game Laws are made for the preservation of this wild life for future generations.

An Advisory Committee composed of four members of the Fish and Game Association, two members of the staff of the University of Alberta and three members of the Fish and Game Branches of the Department was set up last year for the discussion of matters pertaining to game conditions in the Province, suggestions for open and closed seasons and bag limits. This Committee has proven of immense value and is a means of greater co-operation between the Game Branch and the Fish and Game Association. All species of migratory birds showed a marked increase during the year, and an excellent fall shoot of ducks and geese was reported. Perhaps the Governments restriction of shotgun shells might account for this, although a great many hunters had a certain amount of ammunition carried over from other years. Higher water levels throughout the Province and on the breeding grounds had a beneficial effect, and credit must also be given to Ducks Unlimited who have expended considerable work and money in providing better breeding places and safeguards against drought. A sharp decrease has been observed in the number of upland birds, but the Ring-Necked Pheasant has increased to an enormous extent.

The moose appears to be the only big game that has decreased, and many theories are given in explanation. Over infestation of the moose tick accounts for the death of some and timber wolves preying on the calf crop and younger animals seriously depletes the natural increase.

Fur.—There has been a great decline in the number of pelts taken this year, almost one million less than in the previous year. However, owing to the unusually high prices prevailing the net proceeds were almost as high as the returns of the previous year.

Registered Trap Lines.—It is very gratifying to note that the number of registered trap lines shows a steady increase, as this will be a means of saving and preserving our fur-bearing animals. 2,668 trappers now have their trapping

areas registered and thus enjoy the sole privileges over the area which most of them have trapped for a good many years.

Fur Farming.—Although the statistics show a decided decrease in the number of animals contained on fur farms throughout the Province, the high prices prevailing have increased the value to the fur farmer by approximately one million dollars. There are now 1,094 licensed fur farms in the Province and close co-operation is maintained between the Alberta Fur Breeders' Association and the Department. I would like to mention here the valuable assistance Dr. Walton, the Provincial Pathologist, has given to the fur farmers in examining animals for the cause of death, and the production of serum for protection against distemper.

ALBERTA FUR PRODUCTION

Season	Number of Pelts	Valuation
1930-31	941,401	\$1,118,027
1931-32	1,145,888	877,331
1932-33	1,215,094	1,074,884
1933-34	2,270,503	1,533,799
1934-35	1,850,625	1,474,530
1935-36	1,304,966	1,540,077
1936-37	2,068,118	2,170,121
1937-38	1,476,698	1,156,013
1938-39	2,273,826	1,345,130
1939-40	3,977,118	2,514,878
1940-41	2,601,424	2,806,073
1941-42	11,713,686	5,162,635
1942-43	2,468,306	5,067,172
1943-44	1,513,927	4,686,505
Totals.....	36,821,580	\$32,527,175
Decreases this year in comparison with last....	954,379	\$ 380,667

NOTE: The seasons given in the above table are from July 1st of one year to June 30th of the next.

MINING LANDS ADMINISTRATION

Information dealing with quantities and valuation of Alberta's non-metallic minerals produced during the year are given in the Report of the Mining Lands Division. To this is added details covering mineral rights, solid, liquid and gaseous, revenue from fees, rentals, bonuses and royalties, reservations of areas for geological examination and acquisition of varying forms of mineral leases.

Leases dealt with.—Totals of leases issued from October 1st—date of natural resources transfer—to March 31st, 1944, are shown as follows: Leases active at date of transfer, 19,635; issued, 11,306; reinstated, 146; divided, 392; cancelled, 28,159; renewed, 372; active as at March 31st, 1944, 2,948. Areas covered by same are given in a separate statement.

Coal Royalties.—The table dealing with royalties in coal, produced in former years, is shown from the fiscal years 1907-08 to 1943-44 inclusive.

Salt.—Salt production showed a decrease this year.

SALT PRODUCTION

Calendar Year	Tons	Valuation
1938	3,995	\$ 39,950
1939	3,322	33,220
1940	8,524	85,240
1941	16,610	166,100
1942	22,179	221,790
1943	17,408	174,080
Totals.....	72,038	\$720,380
Decrease this year in comparison with last.....	4,771	\$ 47,710

NOTE: The valuation of \$10.00 per ton, which is shown, is based on a well-head price only, and has no relation to a wholesale price of the commodity, which would be considerably higher. Alberta salt development started in 1938. Prior to that year, production was insignificant and no official figures are available.

PETROLEUM AND NATURAL GAS

The Petroleum and Natural Gas Conservation are preparing a report covering this year and all the statistics dealing with this branch will be set out in that report.

TECHNICAL DIVISION

The following comparative statement shows the number of notifications and acreage covered thereby for the fiscal years from 1930-31 to 1943-44 inclusive.

NOTIFICATIONS ISSUED

Fiscal Year	Number of Notifications	Area, Acres
1930-31	23	3,019.710
1931-32	784	111,424.478
1932-33	1,260	178,887.233
1933-34	1,106	165,224.553
1934-35	2,006	324,611.398
1935-36	2,965	433,529.126
1936-37	2,231	325,615.379
1937-38	2,266	382,382.437
1938-39	2,874	517,435.896
1939-40	2,097	301,431.972
1940-41	2,058	295,649.119
1941-42	1,563	229,566.606
1942-43	1,516	229,699.519
1943-44	1,660	249,371.901
TOTALS	24,409	4,747,849.327
Increases and Decreases in comparison with last year....	+144	+19,672.382

A Special Grant was issued on the 15th of June, 1943, in favour of the Government of the Dominion of Canada for certain lands to be added to Janiver Indian Reserve No. 194. In the notification the Mines and Minerals were reserved to the Province. The Duplicate of Title was returned by the Dominion protesting that the Indians under the Treaty were entitled to full ownership of the lands including the minerals.

We have always taken the position that under the Natural Resources Transfer Agreement we are only obligated to transfer the lands and have no authority under The Provincial Lands Act to dispose of Mines and Minerals except by lease.

Action has been taken during the year in connection with the large number of Dominion Government Patents and Provincial Notifications lying unregistered in The Land Titles Office owing to the non-payment of the registration fee. Letters were written in March, 1944, to all the owners pointing out the necessity of complying with the Departmental requirements. We expect to be able to give a satisfactory statement in the next annual report on the results from these letters.

REVESTED AND TAX RECOVERY LANDS

There is a decrease in the acreage returned to the Crown by revestment or through Tax Recovery which is a very good sign of prosperity. The comparative figures follow:

	1942-43	1943-44
	Total Acres	Total Acres
Tax Recovery	211,006.39	29,142.00
Revested	9,534.05	24,743.27
	<u>220,540.44</u>	<u>53,885.27</u>

A decrease of 166,655.17 acres.

By arrangement with the Department of Municipal Affairs a large area of land comprising 123,426.70 acres, is to be transferred to this Department for administration. The lands comprised in this area were previously controlled by The Canada Land and Irrigation Company.

Exchanges of Land.—Under the exchange of land policy 25 settlers in the Special Areas benefitted by exchanging their holdings for other areas of equal

size in locations which proved to be more favourable. Three exchanges outside the Special Areas were made owing to unusual circumstances. Details of all these exchanges may be found in the report of the Superintendent of the Technical Division.

Aerial Photography.—The United States airmen have photographed portions of the Province of Alberta about which practically nothing was known, and through negotiations with the Director of Photography at Washington, D.C., a complete set of these photographs has been received. A wealth of information not available to the general public at the present time is unfolded by these photographs, and we are very grateful to the United States for their co-operation.

Photostat Work.—The acquisition of this machine by the Department has been most fortunate as during the war years the supply of qualified draughtsmen has been very meagre. All Departments of the Government and the University avail themselves of the service provided and the machine is in constant operation.

MINERAL TAXATION

Unfortunately it was not possible to amend The Mineral Taxation Act at the last session of the Legislature, but much valuable information has been assembled so that provision may be made to cover every contingency.

The revenue is increasing every year as shown by the following comparative statement:

Mineral Tax Collected:	
1941-42	\$ 75,120.93
1942-43	94,364.68
1943-44	102,075.15

REGISTRATION DIVISION

For the first time in the history of the Department, the Registration Division was separated from the Lands Branch, and Mr. C. B. Kenway appointed as Registrar in May, 1943. His first annual report is attached.

The Registration includes the mail both incoming and outgoing, the stenographic pool and Departmental files and records. The new Division is functioning very satisfactorily.

J. HARVIE,
Deputy Minister.

Active Service Enlistments

The former members of the staff serving with the Armed Forces are shown on the following list and the branch of the Service in which they enlisted. As we are unable to keep track of the promotions the rank is not given. The best of good wishes go out to them from the Department for their safe return:

Adin, Robert Garbutt	June 30th, 1941	R.C.A.F.
Ambrose, George Russell	June 9th, 1940	Veterans' Home Guard
Anderson, Charles Graham	June 30th, 1941	R.C.A.F.
Arcand, Romeo	July 1st, 1940	R.C.A.F.
Armstrong, Victor	September 30th, 1942	Canadian Infantry
Baker, Alma Richard	Feb. 13th, 1943	R.C.A.F.
Barber, James Donald	Jan. 8th, 1942	R.C.A.F.
Barnard, Edmund Dunbar	Sept. 6th, 1939	R.C.C.S.
Baxter, Robert Daniel	Nov. 13th, 1939	R.C.A.M.C.
Bennett, Harold Enniss	May 16th, 1942	R.C.A.F.
Bowen, Richard Ludger	June 25th, 1940	Calgary Highlanders
Bradley, Marion	October 30th, 1943	W.R.C.N.S.
Brennan, William Robert	Aug. 30th, 1941	R.C.A.F.
Brent, Pearl Minerva	Oct. 28th, 1941	C.W.A.C.
Brick, Hiram Allan	May 31st, 1941	R.C.A.F.
Browne, Owen	Sept. 9th, 1939	Edmonton Regiment
Bryant, Harold James Patrick	Feb. 1st, 1941	Can. Provost Corps
Campbell, Jack Gordon	July 5th, 1942	Edmonton Fusiliers
Cragg, William Edward	Oct. 31st, 1941	Artillery
Craig, Ace Vincent	May 6th, 1940	R.C.N.V.R.
Craig, Helen Mary	June 2nd, 1942	R.C.A.F. (W.D.)
Dalphond, Melville	June 1st, 1940	R.C.A.F.
DeLancey, Arthur L.	Dec. 20th, 1942	R.C.N.V.R.
Dempsey, Harry Varner	May 1st, 1943	R.C.A.F.
Donovan, Louis Norman	Aug. 23rd, 1943	R.C.A.F.
Edgecombe, Rodney Wilson	Jan. 17th, 1944	R.C.A.F.
Fraser, Carroll Monroe	Sept. 22nd, 1941	R.C.A.F.
Gauthier, Lawrence Peter	Feb. 15th, 1941	R.C.A.F.
Genick, William H.	April 19th, 1944	Canadian Infantry
Gibb, George H.	October 1st, 1941	Canadian Dental Corps
Gowdie, Thomas	Oct. 31st, 1939	R.C.M.P.
Hartley, Frederick	October 1st, 1941	R.C.A.F.
Hereford, W. I.	August 18th, 1941	R.C.A.F.
Hinman, Grant W.	June 30th, 1942	R.C.A.F.
Hughes, Charles Granville	April 3rd, 1943	Canadian Infantry
Hutchinson, James Alexander	Oct. 27th, 1939	R.C.A.F.
Keats, Frederick Vernon	April 22nd, 1940	R.C.A.F.
Krause, Reinholdt Frederick	Sept. 18th, 1939	61st Battery, R.C.A.
Langford, Edward	Oct. 13th, 1942	Canadian Army
Lashbrook, Charles S. H.	April 22nd, 1942	R.C.A.F.
Lavoie, Arnold James	June 1st, 1940	South Alta. Regiment
Liddell, William Robert	January 19th, 1944	R.C.A.F.
Livingston, Richard	September 30th, 1944	R.C.N.V.R.
Longson, Burgess	July 29th, 1940	R.C.A.S.C.
Macomber, Ralph	Aug. 16th, 1941	R.C.A.F.
Magneison, James Alexander	May 28th, 1941	R.C.A.F.
Maneluik, Lydia	June 2nd, 1942	R.C.A.F. (W.D.)
Marr, Francis Barbour	Aug. 30th, 1940	R.C.N.V.R.
Maynard, George Frederick	April 11th, 1942	R.C.A.F.
Miller, Ethelyn Maureen	Sept. 27th, 1941	C.W.A.C.
McCardell, William Henry	March 13th, 1940	R.C.A.F.
McCracken, Rodney Ellis	Oct. 31st, 1942	R.C.A.F.
McKee, Robert Maxwell	Jan. 4th, 1942	R.C.A.F.
McKinnon, Ian Nicholson	May 2nd, 1940	R.C.A.F.
Newsome, Roland Thomas	Sept. 21st, 1940	R.C.N.V.R.
Patrick, John William	March 8th, 1942	R.C.A.F.
Perry, Charles Edward	Jan. 31st, 1943	R.C.A.F.
Pinkerton, Harold	Dec. 10th, 1941	R.C.A.F.
Raymond, W.	June 13th, 1942	R.C.A.F.
Rees, David Brinley	Nov. 23rd, 1940	R.C.A.F.
Robertson, Ernest Ronald	May 7th, 1941	Anti-Tank Battery
Russell, Isobel Adair	Sept. 16th, 1941	C.W.A.C.
Scott, Charles Wyard	May 12th, 1942	R.C.A.F.
Shaver, Everett Phelps	Jan. 31st, 1940	R.C.N.V.R.
Shillabeer, Walter Ernest	Oct. 31st, 1939	R.C.N.V.R.
Sloan, Gilbert K.	May 28th, 1941	R.C.A.F.
Smith, Donald Bruce	May 15th, 1943	R.C.N.V.R.
Smith, Elizabeth Victoria	March 16th, 1942	C.W.A.C.
Sparrow, Francis Devereaux	July 28th, 1941	R.C.A.F.
Steffin, Paul Nick	May 16th, 1942	R.C.A.F.
Strate, Lewis Dee	May 20th, 1941	R.C.A.S.C.
Sturrock, Edward Neilson	Jan. 18th, 1942	transferred to R.C.A.F.
Waikle, L. L.	Feb. 10th, 1942	R.C.A. Pay Corps
Walker, Daniel Revie	Aug. 15th, 1940	Veterans' Home Guard
Yakimchuk, Sam	Nov. 10th, 1942	R.C.A.F.
Young, D. J.	September 7th, 1940	R.C.A.F.

We take great pride in being able to list the following decorations:

Group Captain J. A. Hutchison—Order of the British Empire.

Squadron Leader J. P. Alexander—Order of the British Empire.

Wing Commander I. N. McKinnon—Member of the British Empire.

Squadron Leader D. R. Walker—Distinguished Flying Cross and Bar.

Flying Officer M. Dalphon—Distinguished Flying Cross.

It is with regret that we name the following casualties, and the sympathy of the Department is extended to their families:

Young, D. J.—Killed during flying operations in Canada, July, 1941.

Hereford, Winston I.—Killed on Active Service, June 7, 1943.

Steffin, Nick Paul—Missing after air operations over Continent, September 21st, 1944.

Raymond, W.—Prisoner of War after air operations over Continent.

This information is complete so far as our records show, up to and including January 31st, 1945.

Provincial and School Lands Administration

REPORT OF THE DIRECTOR OF LANDS, V. A. WOOD

PROVINCIAL LANDS

During the fiscal year The Provincial Lands Act was amended granting the Minister authority to enter into an agreement or agreements with the Federal Government dealing with Provincial Lands for the re-establishment and rehabilitation of members of His Majesty's Forces. Under this agreement certain areas of Provincial Lands are to be set aside for the re-establishment of veterans of the present war.

The Act was also amended authorizing the sale of surface rights of Provincial Lands to lessees of mining rights at a price to be fixed as to the actual value of the land at the time of the sale, irrespective of its mining value.

The quota system was again in force and at the end of the fiscal year the quota had in a few districts reached eighteen bushels to the acre, but in general the quota was only fourteen bushels to the acre. Due to the quota and lack of proper storage facilities there was a heavy loss in the lessee's and Department's share of the grain harvested.

The wheat acreage reduction policy was continued and this Department made application for and received landlord bonus payments on cultivation leases and permits up to the end of the fiscal year, as follows:

Special Areas	\$12,218.24
Tax Recovery	3,267.03
School Lands	9,638.19
Provincial Lands	841.96

The Canadian Wheat Board was empowered to take over all commercial wheat stocks in Canada, not covered by contracts or agreements for sale. Wheat prices raised from 90c to \$1.25 per bushel, No. 1 Northern, at Fort William and Vancouver, effective 28th of September.

Spring seeding in Alberta this year was slower than in the other two prairie provinces. By June 8th about 5% of the wheat crop and 25% of the other grain crops remained to be seeded. Drought conditions developed early in the southeastern part of the Province and continued throughout a period of extremely hot weather with drastic results to grain crops. Saw-fly damage was quite severe in many sections. The central and northern areas experienced a fairly satisfactory season except that crops were late and were eventually caught by heavy frost about the middle of September. The open fall permitted the completion of fall work and threshing was over before winter arrived.

Due to the Federal Government's crop curtailment policy, this Department continued the practice of not accepting applications for cultivation and grazing leases except in cases where at least one-third of the total area applied for had already been cultivated.

Land Agencies were maintained at Calgary and Peace River, and Sub-Agencies were maintained at Athabasca, Bonnyville, Grande Prairie, Hines Creek and Lac La Biche.

The following Order in Council and regulations were received:

O.C. 1094/43 amended the regulations prescribing the conditions under which right of entry may be obtained upon land and granting authority to do all such things that shall be necessary to give effect to warrants or orders of the Board, constituted prior to The Public Utilities Act, 1923.

Bill No. 31 of 1943 amended the residence clause of the Agricultural Lease regulations as follows:

Residence by a lessee upon a farm of an area of at least 80 acres within three miles of the agricultural lease, occupied by the wife or the husband of the lessee, as the case may be, as owner, purchaser under agreement for sale, lessee, or homestead entrant, and, in the event of the death of such wife or husband, as the case may be, continued permanent residence on such farm may, in the discretion of the Minister, be accepted as residence upon the agricultural lease.

SOIL SURVEY INSPECTIONS

Requests for inspections outstanding as at 1-4-43	86
Reports called 1-4-33 to 31-3-44	268
Reports received 1-4-43 to 31-3-44	248
Reports outstanding as at 31-3-44	106

Two areas were covered by the soil survey party during the 1943 season. The first area designated as the "Athabasca River Area" consists of Townships 59 to 61 inclusive, in Ranges 5 to 8, west fifth Meridian, inclusive, a total of 910 quarter sections being inspected. The second area, designated as the "Area West of Rimbey" consists of Townships 41 to 43, inclusive, in Ranges 6 and 7, west fifth Meridian. A total of 444 quarter sections were inspected in this area.

Considerable difficulty was experienced in obtaining suitable men for the survey work, and of the four men obtained, two left to take other work and one was called for army service. Due to the impossibility of replacing these men, the survey work ceased on the 21st of August. This accounts for the small area covered during the season.

In the two areas covered, a total of 1,354 quarter sections were inspected. Of this number, 795 quarter sections were available Crown lands, including School Lands, the remainder being either patented land or unpatented homesteads.

Two hundred and forty-six quarter sections, or approximately 31% of the available Crown land, was classified as suitable for agricultural lease. Of this number, 40 quarter sections were classified as suitable for grain and legume production only. Twenty-eight of the 246 quarter sections were School Land.

Two hundred and thirty-seven quarter sections, or approximately 29% of the available Crown Land, was classified as potential agricultural land but unsuitable at the present time due to heavy tree cover or muskeg. Some of this land could be economically cleared and cultivated if suitable power machinery were used.

Three hundred and thirteen quarter sections, or approximately 40% of the available Crown Land was classified as unsuitable for cultivation due to poor soil, rough topography or extreme stoniness.

Individual reports on all Crown Lands covered by the survey are on the general land files and a copy is filed in the Technical Division.

Two maps have been prepared for each area covered. One map shows the classification of the Crown Lands inspected and the other shows the soil classification according to texture.

The following is a summary of the work performed by the Field Inspection staff:

Requests for inspections outstanding as at 1-4-43	541
Reports called 1-4-43 to 31-3-44	1,061
Reports received 1-4-43 to 31-3-44	1,102
Reports outstanding as at 31-3-44	410

This work was carried on by four Inspectors.

During the fiscal year an Inspector was appointed to interview lessees and purchasers and collect outstanding crop shares in connection with Cultivation and Grazing Leases, Accrued Area Leases and Sales. Up to the end of the fiscal year this Inspector visited the Cooking Lake district and the Lomond district in

the Special Areas, and collected \$2,754.00. This work is only in the experimental stage, but has already proved a very satisfactory and needful service.

The following statement gives some idea of the transactions of this Branch during the fiscal year:

Homestead and Soldier Grant Entries cancelled	890
Applications for patent received	991
Notifications for title issued including homesteads converted to sales	1,250
Applications for title on hand as at 31-3-44	1,596
Sales granted during the fiscal year	71
Sales cancelled	5
Sales active as at the 31st March, 1944	160
Assignments registered	237
Agricultural Leases:	
Leases in force as at April 1st, 1943—Area 70,589.82 acres	401
Leases issued during fiscal year—Area 37,713.83 acres	208
Leases cancelled during fiscal year—Area 17,435.23 acres	100
Leases in force as at March 31st, 1944—Area 90,868.42 acres	509
Accrued Area Leases:	
Leases in force as at April 1st, 1943—Area 41,296.61 acres	478
Leases issued during fiscal year—Area 2,990.46 acres	45
Leases cancelled during fiscal year—Area 1,757.56 acres	25
Leases in force as at March 31st, 1944—Area 42,529.51 acres	498
Licenses of Occupation (Provincial Lands):	
Leases in force as at April 1st, 1943	105
Leases issued during fiscal year	11
Leases cancelled during fiscal year	6
Leases in force as at March 31st, 1944	110
Miscellaneous Leases:	
Leases in force as at April 1st, 1943	109
Leases issued during fiscal year	22
Leases cancelled during fiscal year	9
Leases in force as at March 31st, 1944	122
Townsite Leases:	
Leases in force as at April 1st, 1943	15
Leases issued during fiscal year .....	...
Leases cancelled during fiscal year .....	...
Leases in force as at March 31st, 1944	15
Mineral Surface Leases:	
Leases in force as at April 1st, 1943	16
Leases issued during fiscal year .....	...
Leases cancelled during fiscal year	1
Leases in force as at March 31st, 1944	15
Right of entry	14
Fur Farm Leases:	
Leases in force as at April 1st, 1943	9
Leases issued during fiscal year	2
Leases cancelled during fiscal year	1
Leases in force as at March 31st, 1944	10
6 and 10 Year Cultivation and Grazing Leases:	
Leases in force as at April 1st, 1943—Area 54,916.64 acres	302
Leases issued during fiscal year—Area 1,789.06 acres	10
Leases cancelled during fiscal year—Area 6,296.08 acres	36
Leases in force as at March 31st, 1944—Area 50,409.62 acres	276
Renewal Cultivation and Grazing Leases:	
Leases in force as at April 1st, 1943—Area 25,122.82 acres	145
Leases issued during fiscal year—Area 1,112.00 acres	6
Leases cancelled during fiscal year—Area 160.00 acres	1
Leases in force as at March 31st, 1944—Area 26,074.82 acres	150
21 Year Cultivation and Grazing Leases:	
Leases active as at April 1st, 1943—Area 2,070.93 acres	7
Leases issued during fiscal year .....	...
Leases cancelled during fiscal year .....	...
Leases in force as at March 31st, 1944—Area 2,070.93 acres	7
Cultivation Leases in the southeastern part of the Province:	
Leases active as at April 1st, 1943—Area 7,448.96 acres	38
Leases issued during fiscal year—Area 6,881.00 acres	31
Leases cancelled during fiscal year—Area 317.87 acres	2
Leases in force as at March 31st, 1944—Area 14,012.09 acres	67
6 Year Cultivation and Grazing Leases (Special Areas):	
Leases in force as at April 1st, 1943—Area 53,254.82 acres	186
Leases issued during fiscal year—Area 11,851.01 acres	44
Leases cancelled during fiscal year—Area 480.00 acres	2
Leases in force as at March 31st, 1944—Area 64,625.83 acres	228
20 Year Cultivation and Grazing Leases (Special Areas):	
Leases in force as at April 1st, 1943—Area 14,101.73 acres	54
Leases issued during fiscal year—Area 22,610.58 acres	83
Leases cancelled during fiscal year .....	...
Leases in force as at March 31st, 1944—Area 36,712.31 acres	137
Grazing Permits (Provincial Lands):	
Grazing Permits issued—Area 482,830.54 acres	1,866
Cultivation Permits issued—Area 1,532.90 acres	110
Hay Permits issued	1,275

Tons of hay cut	8,686
Hay seizures (covering 30 tons of hay)	7
Miscellaneous Squatters Permits issued	260
Grazing (Long Term Grazing Leases):	
Leases active as at April 1st, 1943:	
Provincial Lands—Area 2,505,506.21 acres	1,731
Special Areas—Area 1,124,225.02 acres	728
Total Active Leases—Area 3,629,731.23 acres	2,459
Leases issued during fiscal year—Area 465,280.27 acres	347
Leases cancelled during fiscal year—Area 257,742.07 acres	181
Leases reinstated during fiscal year—Area 1,920.00 acres	1
Leases transferred during fiscal year	1
Adjustments—Area 1,100.00 acres	1
Area added to existing leases	63,330.12 acres
Area withdrawn from existing leases	53,206.65 acres

On the 31st of March, 1944, there were in existence 2,627 leases comprising an area of 3,850,412.90 acres.

Last year eight grazing reserves were established, and proceedings were under way for the formation of five others.

At present there are eleven reserves in operation with two still in the formative stage.

The Vauxhall Reserve, now in operation, covers an area of over 165,000 acres. Farmers of Vauxhall and district grazed 1,147 cattle, 681 horses and 15,543 sheep during the summer period, and 31 horses and 6,396 sheep during the winter period, making a total of 23,798 animals cared for during the year, for which 71 individual permits were issued. This reserve is looked after by a Departmental caretaker, who is in permanent residence on the outskirts of the Village of Vauxhall. At least five men have been continuously employed for the repair and erection of fences, and tests are under way for the drilling of artesian wells. It is also proposed to hire a fence crew and powered post hole digger for the erection of approximately thirty miles additional fencing.

Twin River Grazing Reserve, situated east of Twin River, in Township 1, range 19, West 4th Meridian, grazed 2,062 cattle and 194 horses, for which 32 individual permits were issued. This reserve is also taken care of by a permanent caretaker, who resides on the west side of the township.

Blackfoot Provincial Grazing Reserve, situated at North Cooking Lake, grazed 878 cattle and 156 horses, for which 66 individual permits were issued. This reserve is capable of carrying at least 5,000 head of stock.

Several reserves are operated by grazing associations under permit and lease. The Tulliby Lake Reserve in Township 56, Range 1, West 4th Meridian, is operated under permit, and last year the reserve carried 217 association members' cattle.

The Bowell West Grazing Reserve in Township 14, Range 9, West 4th Meridian, is also operated under permit, and last year it carried 140 association members' cattle.

The Castle River Reserve, situated in Township 16, ranges 2 and 3, West 5th Meridian, the Fir Grove Reserve situated in Township 6, Ranges 2 and 3, and Township 7, Range 2, West 5th Meridian, the M.D. of Eureka Reserve situated in Township 10, Ranges 14 and 15, West 4th Meridian, Barnwell Reserve situated in Township 10, Ranges 17 and 18, West 4th Meridian, the Pipeline Reserve situated in Township 14, Ranges 8 and 9, West 4th Meridian, and the Redcliff North Reserve, situated in Township 13, Range 6, West 4th Meridian, are all operated by incorporated grazing associations and pay an annual rental for the lands, then set the grazing charges to their members at a rate high enough to take care of all their expenses.

The procedure of handling a reserve through an association has proved very satisfactory where the area is less than a township.

The total revenue received for the fiscal year in connection with the administration of provincial lands amounted to \$151,059.84. Details pertaining to this revenue are given in the report of the Accounting Division of this Department.

During the fiscal year the Filing, Mailing and Records were withdrawn and were made a new branch of the Department, with a Registrar in charge.

SCHOOL LANDS

The Provincial Lands Act was amended abolishing the Board appointed to enquire into applications for compromise or adjustments in connection with School Lands Sales made on or before the 30th of September, 1930.

The Act was further amended authorizing the sale of any vacant and available School Land to the Dominion of Canada at a price considered fair and reasonable by the Minister of Lands and Mines and the Minister of Mines and Resources, where such School Lands are to be used solely for the re-establishment and rehabilitation of members of His Majesty's forces.

There were no Board meetings held during the fiscal year.

There were three public auction sales held. Thirty-three new sales were made, including town lots, at a price of \$2,085.00. One parcel of land was sold privately, containing an area of 90 acres, at a price of \$900.00.

Total revenue received on School Lands Sales amounted to \$433,423.68, made up as follows: \$292,923.42 principal and \$140,500.26 interest. This is an increase of \$202,136.90 over last year.

The sum of \$254,825.06 was collected from rental and royalties, as compared with \$214,930.87 in the previous year, an increase of \$39,894.19.

The total revenue received on School Lands for the fiscal year was \$688,248.74, an increase of \$242,031.07 over last year.

School Lands Sales:

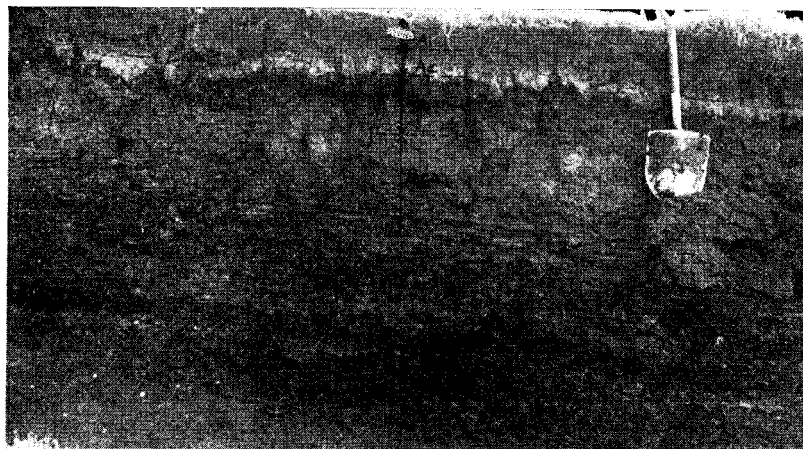
Sales active as at March 31st, 1943	1,869
Sales issued during fiscal year	34
Sales cancelled during fiscal year	54
Sales patented as at March 31st, 1944	224
Sales in force as at March 31st, 1944	1,625

The following is a statement of transaction during the fiscal year:

6 and 10 Year Cultivation and Grazing Leases:	
Leases active as at March 31st, 1943—Area 297,444.34 acres	1,592
Leases issued during fiscal year—Area 9,576.79 acres	55
Leases cancelled during fiscal year—Area 8,232.53 acres	47
Leases in force as at March 31st, 1944—Area 298,788.60 acres	1,600
6 Year Cultivation and Grazing Leases—Special Areas:	
Leases active as at March 31st, 1943—Area 10,347.13 acres	36
Leases issued during fiscal year—Area 3,974.81 acres	15
Leases cancelled during fiscal year—Area 480.00 acres	2
Leases in force as at March 31st, 1944—Area 13,841.94 acres	49
Cultivation Leases (S.E. of Province):	
Leases issued during fiscal year (area 160 acres)	1
Leases in force as at March 31st, 1944 (area 160 acres)	1
Miscellaneous Leases (Recreational, Residential, etc.):	
Leases in force as at March 31st, 1943	44
Leases issued during fiscal year	6
Leases cancelled during fiscal year	2
Leases in force as at March 31st, 1944	48
Licenses of Occupation:	
Licenses active as at March 31st, 1943	36
Licenses issued during fiscal year	3
Licenses cancelled during fiscal year	1
Licenses in force as at March 31st, 1944	38
Number of School Lands assignments registered	105
Number of School Lands Grazing Permits issued—Area 433,372.102 acres	2,192
Number of School Lands Cultivation Permits issued—Area 743.8 acres	36
Number of School Lands Hay Permits issued	249
Number of tons of hay cut	2,253
Number of hay seizures	4
Number of Gravel Permits issued	4
Cubic yards of gravel authorized	4,960



Slightly degraded soil profile typical of the clay and clay loam areas of the Grande Prairie district



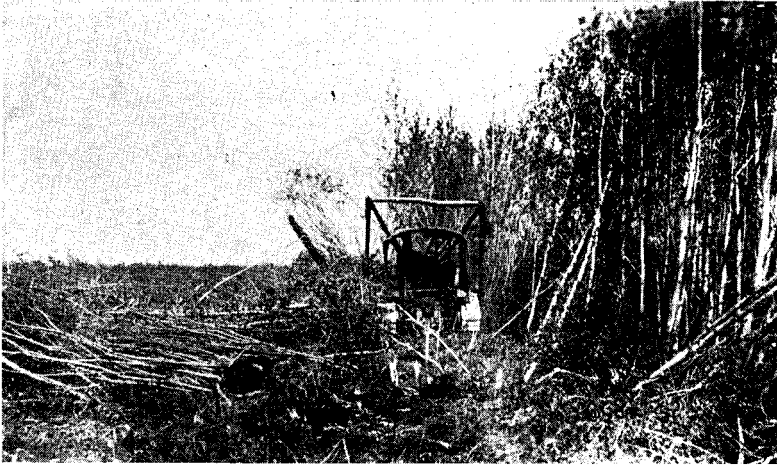
Soil profile typical of St. L. 3-6-4, west of Fairview

Courtesy Wm. Odynsky, P.F.R.A. Soil Survey, U. of A.



A moderately degraded profile (grey wooded soil), Sec. 34, Tp. 81, Rge. 5, W. 6th Mer.

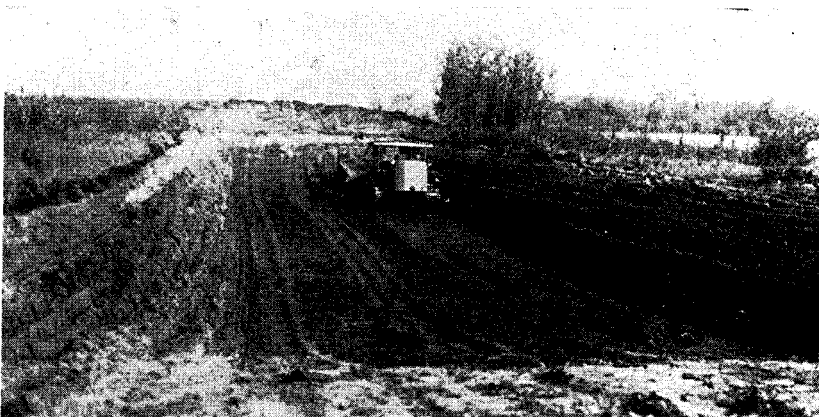
Courtesy Wm. Odynsky, P.F.R.A. Soil Survey, U. of A.



A V-type brush cutter in action west of Leduc. The modern, economical method of clearing bush land.



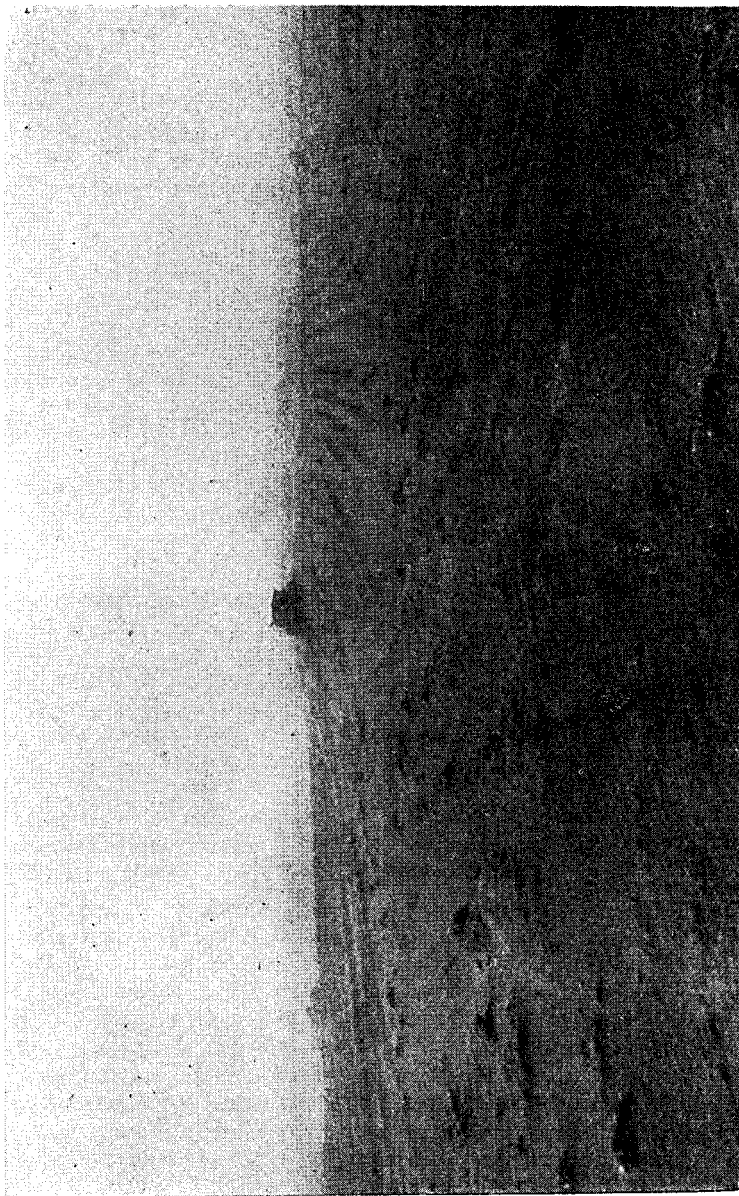
The Montagneuse River valley, Peace River district—two miles wide at this point.
Courtesy Wm. Odynsky, P.F.R.A. Soil Survey, U. of A.



A method of water storage where well water is unobtainable. Dugout construction southwest of Gage in the Peace River district.
Courtesy Wm. Odynsky, P.F.R.A. Soil Survey, U. of A.



Picture No. 1.—Cattle grazing in the short grass area of Alberta. Proper use of grazing land resulting in economical production and conservation of natural resources, as in contrast to *Picture 2*.



Picture No. 2.—A desert in the making. Result of cultivating land suitable only for grazing, as shown in picture 1. Improper land use is a waste of a valuable natural resource.

Registration Division

REPORT OF THE REGISTRAR, C. B. KENWAY

In reporting the work of the Registration Division for the past year, it is rather difficult to record statistically the volume of work done as its nature does not readily lend itself to this type of reporting without entailing an unnecessary amount of extra and needless work. Unquestionably the business of the Division and the Department as a whole has increased greatly over the previous year. This is borne out by an examination of the figures given below showing the letters received and sent during the past two fiscal years:

1942-43			
Month	Letters received	Letters sent	Totals
April	15,793	13,467	29,260
May	11,913	12,632	24,545
June	10,282	13,324	23,606
July	11,039	11,391	22,430
August	11,994	32,503	44,497
September	11,385	13,114	24,499
October	10,780	31,963	42,743
November	12,175	11,852	24,027
December	11,467	14,239	25,706
January	10,067	13,700	23,767
February	10,783	13,421	24,204
March	15,510	13,916	29,426
Total	143,188	195,522	338,710
Monthly Average	11,932	16,294	28,226
1943-44			
April	12,371	11,783	24,154
May	11,425	12,104	23,529
June	11,974	23,979	35,953
July	15,420	41,022	56,442
August	12,021	39,154	51,175
September	13,787	23,478	37,265
October	13,013	15,031	28,044
November	15,455	19,195	34,650
December	13,309	18,508	31,817
January	15,851	19,651	35,502
February	17,840	20,077	37,917
March	16,912	23,528	40,440
Total	169,378	267,510	436,888
Monthly Average	14,115	22,292	36,407
% Increase over 1942-43	18.3	36.8	29.0

It must be realized that in recording the above figures that it represents the total mail received in the Department by the Registration Division, a large proportion of which is ultimately handled through the stenographic pool, filing and record sections. Any increase in either incoming or outgoing mail is immediately reflected in all three sections of this division.

A glance at the monthly figures for mail received during the past year shows a variation from month to month that creates a staff problem that must be fully understood to be appreciated. For example, it reveals that the incoming mail for 1942-43 fluctuated very little, remaining more or less constant between ten and twelve thousand piece of mail per month, while during the past year it varied from eleven to nearly eighteen thousand pieces per month. When it is realized that the heavier years were handled with no increase in staff, it speaks exceedingly well for the staff. In fact, the stenographers for example carried their share by doing last year's work in 8,830 stenographer days, against 9,024 stenographer days for the previous year, which was not as heavy. The point is this, with only

a small fluctuation in correspondence, little or no change is required in staff, but when it varies greatly or rapidly, or continues at a peak for a prolonged period, either one or several things are certain—correspondence will not be answered promptly (with consequent complaints from the public), extra staff must be hired, or the present staff worked harder and longer over the heavier periods. Many are willing to do the latter, but it is not to be expected that over a period of time a certain type of dissatisfaction will not be shown, unless some compensation or consideration is made for their welfare. That they have been more than pulling their weight goes without question.

In spite of changing and inexperienced personnel, extra work, and congested quarters, at the beginning of the year, an attitude of co-operation or better "esprit de corps" has developed over the year, which has made it possible to complete a splendid showing of work. At this point I wish to express my sincere appreciation of the honest effort the staff has put into their work and the co-operation and good feeling displayed in its execution.

In the first six months of the year a rapid turnover of staff occurred, with thirty-one changes arising in a staff of fifty, which contrasts greatly with only two changes occurring during the last four months of the year. Most of this turnover occurred in the stenographers pool, where only 12 out of 30 had been with the Division longer than twelve months. The average length of time most of them stayed was about seven months, against six months for the previous year. Having obtained a little experience, many sought more profitable employment. This condition is becoming more stable and should be greatly improved with the completion and proper reclassification of positions.

RECORDS

In common with the other sections of the Division, the Records Section has handled a greater volume of work than formerly. Here again it is rather difficult to give a clear picture of the volume of work done, but a perusal of the reports of the Land, Timber and Technical Branches will give some idea of the standings furnished and the entries made. In the case of the Lands Branch, for nearly every item involving either the granting, cancellation or assignment of leases, sales, permits, homesteads or soldier grants, this Division has supplied standing on every quarter involved and at a later date made appropriate entries in the registers on completion of the transaction. Entries and cancellations of timber permits and berths, involving thousands of acres, were made for the Forestry Branch.

In addition to furnishing standings and making entries on routine material, such as leases, sales, timber berths, etc., special requests for standings on over one-half million acres were supplied, and in many of these cases entries were made.

As a number of the township registers were in an unsatisfactory state, two full-time transcribers were employed, and in the space of four months eight registers have been transcribed. An effort is being made to change all registers to the loose-leaf system in order to reduce the amount of transcription. However, it has been found necessary to use the transcribers for a certain amount of routine entering in order to keep the work moving along smoothly.

FILING

The figures mentioned at the beginning account in large measure for the increased activity in the Filing Section. In addition to this, the responsibility of the Mining Land files was assumed in September, which entailed a number of changes and adjustments.

Lack of desk and filing space at the beginning of the year was a serious handicap, and although this has been partially alleviated by certain office changes, it is still a hindering factor. The active filing cabinets have been "worked-over" several times within the year, in order to find more filing space, and the files removed in the process have caused some congestion in the filing vaults. This can be overcome by speeding up the photographing of cancelled files and the installation of more filing shelves. New material is being added to the files at the rate of about $1\frac{1}{2}$ to 2 filing cabinets per month, and as the number of cabinets in the office is static, a great deal of rearranging is necessary.

Whenever time has allowed, an effort has been made to set up cross references for certain information not readily available, and some of these are functioning normally now with a consequent saving of search time. However, there is much that has yet to be done in Kardexing information not previously listed.

A system of speeding mail attached on search days has recently been put into effect, with gratifying results. If properly adhered to, the majority of mail so attached should reach its destination within twenty-four hours.

It is interesting to note that although there are normally between 5,000 and 8,000 files scattered throughout the office on routine business, and continually moving from desk to desk while the searchers are searching, only about one-tenth of one percent of the 15,000 letters received per month are not attached within two weeks' time. This speaks well for the ability of the filing staff to locate files, but it still suggests that the system should be changed so that letters are attached within 24 to 48 hours. With the co-operation of all branches and a slight increase in staff, this could be done.

The number of new files opened was not as great as in the previous year, marked reductions being noted in general and school land files, as shown by the table below:

COMPARISON OF NEW FILES OPENED FOR THE YEARS 1942-43 AND 1943-44 AND THE TOTAL FILES IN USE AS AT MARCH 31, 1944			
Kind of Files	1942-43	1943-44	Total 1943-44
General Lands	3,292	2,058	98,227
Grazing Lands	412	456	8,586
Timber Lands	526	841	7,417
School Lands	493	264	12,007
Mining Lands	862	886	35,439
S. L. Mining	6	12	3,176
Company Files	20	13	958
Right of Entry Files .....	.....	39	39
	<u>5,601</u>	<u>4,569</u>	<u>165,869</u>

Forestry

REPORT OF THE DIRECTOR OF FORESTRY, T. F. BLEFGEN

The Forestry Branch in the Province of Alberta carries a responsibility which no other Forest Service in Canada is required to carry by reason of the fact that the Rocky Mountain Forest Reserves are located on what is known as the East slope of the Rocky Mountains, which acts as a watershed for rivers flowing through the Provinces of Alberta, Saskatchewan and Manitoba. The protection of this watershed is, therefore, not only vital to people in the Province of Alberta, but it is also vital to the people living in the Provinces of Saskatchewan and Manitoba, through which the rivers flow.

In 1910, at the direction of the Dominion Government a survey was made to determine the Eastern boundary of the Rocky Mountain Forest Reserves. The survey extended from the international border to the Saskatchewan River, and was later extended on across the Athabasca River to a point sixty miles north of the north boundary of Jasper Park, on the British Columbia boundary. In making this survey, the surveyors followed as closely as possible a contour level of approximately 4,200 feet, but adjustments were made from time to time either up or down from this level in order to take in the timbered areas along the Foothills and east slope of the Rocky Mountains. It was the desire of the Government that all of the timbered area lying above a certain approximate level should be included in this vast watershed protection scheme.

In setting up the Rocky Mountain Forest Reserves the Government at that time foresaw the necessity of protecting these areas so that there would be a continual flow of water down the rivers which feed the Prairie Provinces. It is realized that these rivers acquire additional water after they have left the mountains by run-off from annual rains and annual snowfalls, but in country not covered by timber growth the run-off is stored to assure a continual flow of water in these streams.

The Dominion Government at that time foresaw the necessity of the construction of irrigation projects, power projects and other projects requiring a continual flow of water, and many of these projects have come into being and more are proposed, particularly in the post-war scheme. If the east slope watershed is not adequately protected, visions of large scale irrigation projects and power projects will be of little avail because there will be lack of a constant flow of water down the rivers and streams supplying such projects. With the transfer of the Natural Resources in 1930, the Rocky Mountain Forest Reserves passed from the control of the Dominion Government to the control of the Provincial Government. It will be realized, therefore, that the Forest Reserves of the Province of Alberta serve all those persons living in the southern parts of the three Prairie Provinces.

At the time of the formation of the Rocky Mountain Forest Reserves, it was necessary to include within the area of the Reserves certain grasslands which were adjacent to or mixed with timbered lands in such a way that they could not be segregated. These grasslands created a fire hazard by reason of the fact that grass in its dry state is easily ignited, and a grass fire would run into the timbered areas. At the same time this grass supplied grazing for large numbers of stock. The original arrangement for the grazing of stock on the Forest Reserves was on the basis of fire protection by removing the grass rather than letting it grow to create a fire hazard. Sometimes this policy is lost sight of over a period of years, and the man who obtains this very fine grazing on the Forest

Reserves forgets that the basis of his grazing is largely fire protection of the timber growth on the Forest Reserves.

In the handling of grazing on the Reserves, great care has to be taken to avoid the possibility of over-grazing. Soil with an adequate cover of grass or trees is able to stand up under continual beating from rain or the flow of water across this land from flood conditions at the time of melting of snow in the spring or at the time of heavy rainfall. If, however, this grass cover is denuded to the point where roots are pulled up by stock grazing thereon, erosion sets in and the flow of flood waters is augmented by the solid material from eroded valleys, and floods of this kind are known to have the most disastrous effects. As soon as the Forest Reserves were established, it was necessary to plan and construct a system of roads, trails and telephone lines throughout the area so that those persons responsible for fire protection in the area could get to any part of the Forest Reserves to fight fire, and in order that they might have a complete coverage of the Reserves for supervision of all the activities carried on therein. These trails and roads and telephone lines are essentially for fire protection within the area. The roads and trails serve as avenues of travel and telephone lines serve as communication between lookouts, rangers and supervision staff. The roads and trails also serve as avenues of travel for the large number of the camping, fishing and hunting public who use the Reserves as a recreation ground, and such trails and roads must be kept up by our ranger staff at all times, not only so that travellers may move easily throughout the Reserves, but more particularly that the ranger and his fire crew may reach any point in the Reserve when danger threatens.

It was necessary in the original programme to construct ranger stations at strategic points throughout the Forest Reserves so as to house the forest ranger staff, giving them a decent place in which to live, giving them stable facilities for their horses, storage space for their fire fighting equipment, and it required the construction of fences for pastures and in certain areas for cultivation for the raising of feed for Government horses. The maintenance of these buildings and structures and the maintenance of trails, roads, telephone lines and other improvements on the Forest Reserves is a very large undertaking, and the ranger and his assistant must carry on the maintenance of these projects in order that he can adequately protect the Reserve from fire.

In addition to the work required to be done by our ranger staff in the construction and maintenance of improvements and the fighting of fire, it is also necessary in most parts of the Forest Reserves that they supervise grazing activities, mineral surface rights, townsites, dude ranches, the construction and maintenance of trappers' cabins, fences, sawmills, logging camps and various other uses to which the Forest Reserves are put by the general public. It should be realized that in the formation of Forest Reserves that vast areas of coal land were included within the boundaries. In addition, there are areas where oil companies have been on the search for oil, and it should also be kept in mind that in addition to watershed protection the timber in this area forms a protection for a large amount of game and fish in the water lying therein, which supply the necessary sport and recreation for those interested. In addition, a large amount of fur is taken each year which supplies a living to those persons engaged in this form of business. In all the multiplicity of interests within the Forest Reserves, it must always be remembered that the essential factor governing the setting up and maintenance of the Rocky Mountain Forest Reserves is watershed protection and the preservation of timber resources in that area. All other functions of the Reserves are incidental to these two main functions, the most important being that of watershed protection.

In addition to the 14,000 square miles of land set aside as the Rocky Mountain Forest Reserves, the Forest Service has supervision over a vast area of 148,000 square miles of territory in what is known as the Northern Alberta Forest District. This is the vast timbered area lying north and west of the City of Edmonton and extending north into the unorganized northern part of this Province. Within this vast area ranger districts have been established for many years, rangers being in charge of each district, and these men are responsible for the suppression of fires in their districts, and are in addition under the supervision of the Timber Inspector in the Division, responsible for the supervision of the activities of timber cutting.

This large area has within it many areas which are essentially timber lands and will never become agricultural lands even after the timber is removed. Such lands will have to be kept in perpetuity as lands suitable for the protection of timber resources so that there will be a constant source of lumber to meet the demands of the public. There are, however, within this district many areas which will make good farming lands once the timber is removed. It is the duty of the Forest Service, as cutting progresses, to decide whether such land shall be set aside for the purpose of timber production or whether such land shall be made available for farming purposes.

There are three essentials to human existence on this earth, soil, water and forest cover. Forest cover might include timber of large size, trees and shrubs and the grass and moss growing on the soil underneath the forest cover. If one of these essentials is taken away humanity cannot exist, and the Forest Reserves are vital in the conservation of all three.

RADIO BRANCH

Report of Radio Superintendent, A. E. Earnshaw

Work of the Radio Branch for the fiscal year 1943-44 consisted mainly of maintenance. Due to the scarcity of new equipment it was deemed inadvisable to consider any new construction, and with the exception of eleven portable Radiophones for ranger use and a small amount of test equipment, no new equipment was purchased. This portable equipment will be distributed where most required during the coming season, and will assist in giving more adequate communications coverage, especially in the northern and southern parts of the Province.

In carrying out the necessary maintenance and repair work, the Radio Superintendent and Chief Technician together travelled within the Province a total of 16,090 miles, by train, car, bus wagon, saddle horse, and on foot. This is the equivalent of better than half-way round the world. In addition, approximately 1,500 miles were flown by the Radio Superintendent in aerial reconnaissance of new lookout sites. Two suitable sites were chosen, and will have towers built on them during the coming year. This method of locating towers, or rather suitable sites for the location of towers, has proved extremely satisfactory. A complete survey can be made from the air which will give surprisingly accurate information on the height above sea level and also above the surrounding terrain of the location in question, the extent of visibility in all directions from the selected point, possible trail locations for easy access to the tower, and finally the exact location of the point in question for mapping purposes. This information, which can be compiled during the course of a three or four hour flight over the desired area, cuts the amount of ground work required to a bare minimum. The Department is indebted to the manager and staff of No. 2 A.O.S. of Edmonton for the use of aircraft for this work.

Maintenance and repair work was badly hampered by the scarcity of repair parts of all kinds, and considerable ingenuity had to be used to convert various waste products into workable and efficient repairs. Such work was done by radio personnel completely, and the following list of materials which eventually found their ways into radio sets, test equipment, and engine repairs gives some idea of the difficulties involved: scrapped fire pumps, pack saddles and hose, parts of old filing cabinets and pieces of aircraft windshield, old boots, rubber heels and metal mining claim tags. This list might be continued almost indefinitely, but the items named are representative.

During the year a change was made in the method of servicing equipment in order to relieve the pressure of work at certain periods on the Edmonton staff. Heretofore all equipment had been serviced by the Radio Superintendent and Chief Technician, but four points in the Province were picked as sub-depots for service work, and the operators at those points are being trained to carry out repairs and checks on all types of equipment in their area. Suitable test equipment and tools were supplied at each point, and small stocks of spare tubes, batteries, etc., will be maintained at each point also. Close check is kept on all service work done by these operators by means of service reports, and to date this system of handling repairs has proved satisfactory. It has, of course, several advantages, such as faster handling of all service work in various parts of the Province, decreased express and carrying charges and more frequent inspections. Disadvantages, if any will become apparent in the course of the coming season.

Due to enlistments and resignations, almost the entire field staff had to be replaced with new personnel, most of whom were untrained. Their training involved a considerable expenditure of time on the part of other personnel. The training of girls as operators for headquarters stations has been proceeding, but with indifferent results as the annual turnover among such personnel is large. Some of the girls have, however, shown marked aptitude for such work, and it is expected that in due course trained relief operators will be available at nearly all headquarters stations, which will allow the headquarters station operators to devote more time to service work.

Some time during the year was spent on experimental work on ultra-high frequency equipment. Experimental units embodying recent discoveries in this field are under construction, and it is expected further research will be carried on during the coming year. This work is, of course, subject to the same difficulties as maintenance due to the extreme shortage of suitable materials and parts.

The number of messages handled by the Radio Branch still shows an increase over previous years, and when it is considered that a great portion of the traffic passed is in the form of radio telephone conversations between field men and their superiors, of which no record is kept, it will be seen that maintenance costs, estimated on a traffic basis, are extremely low. Figures are given in connection with the operation of portable units also, and interesting comparisons may be drawn between them and the maintenance costs of telephone lines, taking into consideration the relative coverage, flexibility and efficiency of each type of service.

Average maintenance costs 1943-44 for one ranger type portable radiophone (excluding labour). Average taken on 69 sets, and includes all parts and equipment used during the year to maintain the set in a serviceable condition, \$20.87. Total messages and words, entire system, 32,037 messages, 609,313 words; total messages and words, lookout stations, 6,156 messages, 105,034 words; total gasoline consumption, lookout stations, 810.87 gals.; total oil consumption, lookout stations, 162.72 qts.; total gasoline consumption, headquarter stations, 410.0 gals.; total oil consumption, headquarter stations, 34.9 qts.

Average maintenance costs 1943-44 for lookout towers equipped with sixty watt transmitting apparatus and associated equipment, less labour, \$68.20 (includes gasoline, oil, tubes, spare parts and all parts used to maintain the station in serviceable condition).

Maintenance costs, Goose Mountain Tower only, \$128.07. Increase due to cost of gasoline landed at tower, approximately \$1.25 per gal.

LOOKOUT STATIONS—60 Watt and 100 Watt

Station	Engine Time	Gas, gals.	Oil, qts.	Messages	Words
Adams Creek	14'30''	4	2	.....	.....
Athabasca*	96'00''	8	3.49	244	3,336
Brazeau	199'04''	57.37	3.87	340	5,552
Buck Mountain	196'57''	51.50	18.25	425	7,336
Carrot Creek	128'55''	33.5	2.24	177	2,221
Goose Mountain	334'04''	80.75	4.25	651	13,050
Lovett	185'11''	49.5	11.5	942	16,761
Mayberne	308'24''	70.25	8.37	1,149	14,068
Sask. Mountain†	293'22''	33.5	5.0	317	3,882
Whitecourt	1553'42''	422.5	103.75	1,911	38,828
	<u>3340'09''</u>	<u>810.87</u>	<u>162.72</u>	<u>6,156</u>	<u>105,034</u>

*30 Watt Station.

†10 Watt Station.

HEADQUARTERS STATIONS

Station	Engine Time	Gas, gals.	Oil, qts.	Messages	Words
Calgary .....	.....	.....	.....	3,034	69,929
Edmonton .....	.....	.....	.....	13,669	229,685
Edson .....	.....	.....	.....	2,419	52,108
Grande Prairie .....	.....	.....	.....	2,702	64,758
Lac La Biche	953'11''	218.5	20.5	1,280	30,038
Peace River .....	.....	.....	.....	957	25,568
Rocky Mountain House .....	.....	.....	.....	675	15,295
Slave Lake	768'31''	191.5	14.4	1,145	26,898
	<u>1721'42''</u>	<u>410.0</u>	<u>34.9</u>	<u>25,881</u>	<u>504,279</u>
Totals, Lookout Stations	<u>3310'09''</u>	<u>810.87</u>	<u>162.72</u>	<u>6,156</u>	<u>105,034</u>
Grand Total	<u>5031'51''</u>	<u>1220.87</u>	<u>197.62</u>	<u>32,037</u>	<u>609,313</u>

NORTHERN ALBERTA FOREST DISTRICT

Report of Chief Timber Inspector, F. W. Neilson

The spring of 1943 throughout the Grande Prairie and Peace River Divisions, the extreme west end of the Slave Lake Division and the northern part of the Lac La Biche Division, opened with only small reserves of moisture. Snowfall over these areas was very light during the winter of 1942-43, following a dry autumn.

With the exception of the northern divisions mentioned, snowfall was above normal, the first fall covered the unfrozen ground with a heavy blanket in November, 1942. With the deep snow and unfrozen ground, two such favourable conditions, very little moisture was wasted in the spring run-off. There was a deep soil penetration and the season commenced April 1st with a very low fire hazard.

Most of the month of April was unusually warm, and suppressive action in the northern district was necessary in quite a number of cases. During May, usually the period of greatest danger, the weather turned very cool and continued so well into June. The reserves of moisture in the northern district, as previously stated, were very small. However, the cool weather together with intermittent showers starting around May 10th enabled us to control the various outbreaks in these areas with very little loss of timber.

During the summer months rainfall continued lighter in the areas of low moisture reserves than in other parts of the district. In September and October the hazard rose sharply, and this was particularly the case in the areas of low

moisture reserves. A great many grass fires threatening homes and buildings as well as valuable stands of timber were started by locomotives along the Northern Alberta Railway between the Smoky River and Rycroft, and between Rycroft and Webster. Many of these fires were started by clinkers being dropped from the fire-box of a locomotive while the train was in motion. Co-operation, however, on the part of track crews from the roadmaster down was very good.

The month of December was unseasonably warm, and it was not until immediately before Christmas that there was sufficient snowfall to cover the ground. The rest of the winter was mild and snowfall was below normal, particularly in the northern areas where moisture reserves were already subnormal.

The fact that timber losses from fire were the lightest in years is a source of great satisfaction. We have been most fortunate during the past season, but the lack of reserve moisture or roads to reach timber areas quickly, the lack of fire guards between settlements and timber, and the shortage of manpower to deal with situations as they arise can only be considered with foreboding for the future.

It is with deep regret that I mention the death in September last of Inspector H. D. MacDonald. At the time of his death he was in charge of the Grande Prairie Division, to which he moved in February, 1941, from the Lac La Biche Division. Mr. MacDonald was a member of the Dominion staff that was transferred from the Department of the Interior to the new Provincial Department of Lands and Mines in 1930 when the natural resources came to the Province. He leaves behind to mourn his loss his widow, as well as a host of friends both inside and outside the Service.

The resignation of Harper Morden on April 30th, 1943, from the position of timber inspector of the Edson Division on account of ill-health is a matter of regret. Mr. Morden was a loyal associate and well qualified for the position he held.

Charles Hughes, who had charge of the Edmonton Division, also left the Forest Service in April to take up duties with the Canadian Army Overseas. He was the youngest member of the inspection staff, and we hope to have his services again when he returns.

The loss of three inspectors from the Service made it necessary to appoint three new men to the positions left vacant. It also meant the transfer of experienced inspectors to more difficult districts, their former positions being taken over by the new appointees. A shuffle of this kind has its difficulties. New men must be trained and inspectors who were transferred require some time to familiarize themselves with their new districts.

The three new appointees were promoted from the ranger staff, which is always under observation for qualifications that may lead to promotion. These promotions depleted the ranger personnel of some of the most valued members. New appointments were necessary to fill these positions and others left vacant by resignations.

The fact that rangers are now employed on a yearly basis, instead of seasonally, should be an inducement to a good class of young returned soldiers to join the Service after the war. At the present time the difficulty in obtaining suitable men for ranger positions is increasing so much that we not only have very little choice, but some of the districts are still vacant. We have been fortunate in retaining the services of a good percentage of experienced rangers, but an infusion of new blood would be desirable.

The retention of the services of ranger personnel on the yearly basis was made possible by reason of the fact that the field work in connection with game and trapline administration was turned over to them. It

seems only logical that the services of men with experience in the forest and familiar with their divisions should be utilized in this work. The whole set-up has worked harmoniously, but this could hardly be so if the position of Game Commissioner was separated from the Forest Service. It has, however, added an additional burden of responsibility to the inspectors, who are already carrying a heavy load. Probably no other class in the Government service is required to have such a diverse knowledge, face so many hardships, and accept so much responsibility.

The Department is dependent on these men to supervise all the activities of the rangers both in connection with fire suppression and the administration of The Game Act. They must have a very good knowledge of the system of survey and deal with every phase of field administration in connection with the sale of timber and of timber operations under the regulations. The amount of collectible revenue, royalties and dues in connection with timber cut from the forests of the Province is largely dependent on their knowledge, ability and integrity.

A ranger school was held at Westlock for three days, from March 20th to the 22nd inclusive, and for the first time in the history of the Northern Alberta Forest District all rangers and inspectors gathered together at one place. It was also attended by head office officials, who took part and dealt with subjects and policies for which they are responsible. The rangers were told that they were free to express their views regardless of the opinion of any official present. They did so. The meeting was most successful and interest was keen and sustained.

Problems peculiar to each division as well as those applicable to the whole Northern Alberta Forest District were frankly discussed. Misunderstandings were cleared up, and rangers from over the whole vast area of the district, as well as inspectors and head officials became better acquainted and familiar with the other man's problems. Continuation of this meeting from year to year is strongly recommended.

With full responsibility of game and trapline supervision and the necessity of being particularly on the alert for fire during the spring and fall months, and regular patrols to be made during the summer, rangers have not the time to do much trail work or other improvements. The question of a large programme of improvements, however, is probably one for post-war consideration. During the season the following improvements were made:

<i>Division</i>	<i>Improvements</i>
Grande Prairie	Seven miles of road cut from Sturgeon Lake to Puskwaskau tower-site in Township 72, Range 23, West 5th Meridian. Standard forestry cabin erected at tower-site and lumber and other material hauled in.
Peace River	Divisional headquarters built by Department of Public Works at Peace River. Two portable tool caches. Pack trail blazed and partly cut from Packsaddle tower-site to Meridian Hill, in Township 86, Range 1, West 6th Meridian.
Lac La Biche	Six miles of road with bridges and corduroy in places built from Touchwood Lake to the Heart Lake tower-site, in Township 68, Range 9, West 4th Meridian. A standard forestry log cabin and walls of a barn were erected at the Heart Lake tower-site. Lumber and other material required in the erection of the tower hauled in during the winter.
Calling Lake	Log cabin erected in the Wandering River District No. 17.
Westlock	Rack for drying hose constructed of timber at Whitecourt. Whitecourt cache shingled and painted. Approximately 6 miles of trail cut with bridges and corduroy in Townships 62 and 63, Range 14, West 5th Meridian. 400 fence posts, cut, peeled, and sharpened for Whitecourt cache pasture. Lumber for roof and trim, also windows, hauled for the Freeman cabin, which is to be built next season.
Breton	Standard log forestry cabin built at Alder Flats. Fence posts cut and placed with two wires around 40 acre pasture at Alder Flats.
Edson	Two standard log forestry cabins partially completed on Rad Creek in Township 50, Range 12, West 5th Meridian, and on Zita Creek in Township 48, Range 12, West 5th Meridian.

CROWSNEST-BOW RIVER FOREST RESERVE

Report of Acting Forest Superintendent, F. G. Edgar

FOREST PROTECTION

Fire Season.—Spring was late in arriving after a very long, cold winter. Precipitation during the spring months was frequent and fairly heavy, but from the middle of July until the late fall the weather was dry and warm. The winter months were mild and very little snow fell until March.

Fire hazard was light during the spring and early summer. After the middle of July the danger of fire increased rapidly, and was only prevented from becoming really serious during the fall by the absence of our usual heavy fall winds and the fact that there was a fair supply of subsoil moisture carried over from the previous wet season. Due to the open, mild winter, a dangerous fire hazard existed during the entire winter, and some of our fires occurred at this time.

Fire Preventions.—Fire prevention is of primary importance in that the degree of its success determines more or less the requirements of fire suppression. Prevention activity is necessarily administrative, having to do with control of fires originating through human agencies in one form or another. Fires from natural causes are of a lesser frequency, and not readily subject to preventive control. Fire prevention depends to a large extent upon the education of the public by various means of publicity.

The most effective form of publicity is by direct contact between our field staff and the many persons using the reserves. This contact is brought about as a result of our requirement that all travellers or campers on the reserve take out a free travel permit or in case of the ranger's absence from his station, to fill out a registration blank. This requirement has been in effect for many years, and has resulted in our rangers knowing at all times who is in the Forest and where they are. Travel on the Reserve during the summer and fall was considerably heavier than for the same period last season. This, no doubt, was due to the fine, dry weather prevailing. Our records show that approximately 1,298 free travel permits and registration forms were completed covering approximately 2,471 persons.

Fire Detection.—Our methods of fire detection during the past season remained the same as in former years, and depended on the lookout system and ranger patrols. As the late summer and fall were unusually dry, the lookouts were manned continually at that time.

Suppression.—Of the eight fires reported during the regular fire season, five were inside the Forest Reserve and three outside. Two of the fires reported were railway fires, and were entirely suppressed by section crews. Of the other six fires, two were put out by our own staff, and on the other four outside help was needed. Fortunately, these four fires occurred where help was available from sawmill crews and miners. In addition to the regular season fires, we had four winter fires occur. Two of these fires were on the Forest Reserve and two outside. On all of these fires it was necessary to obtain local extra help for suppression purposes.

The total cost of fire suppression for the 1943-44 season was \$866.69 in cash expenditure and \$359.27 in ranger labour. Acreage burned over was 131 acres, with a total timber loss of \$307.25.

Personnel.—The staff of the Crowsnest-Bow River Forest was maintained during the greater part of the fire season at the same numerical strength as in former years. A number of changes were made in the staff, on account of transfers, resignations and enlistments, during the season, and towards the end of the season several vacancies that occurred were not filled.

For the second consecutive winter, practically the entire staff was given employment, and this fact has tended to create a better feeling among all of the employees.

Castlemount District.—Assistant Ranger Ross Rhodes did not resume his duties in the spring, and his place was filled by the appointment of J. E. Butler.

About midseason, District Ranger J. D. Champion was transferred to the Cypress Hills Forest and his place was taken by Assistant Ranger A. E. Freeman.

Crowlodge District.—Floyd Smith was appointed at the start of the season as Assistant Ranger in this district, filling a position that had been vacant since the early fall of 1942.

Bighorn District.—In the spring, D. Reuscher, former telephone operator at Jumping Pound, was appointed Assistant Ranger in this district. In July he resigned, and his place was taken by J. Mickle.

Elbow District.—Assistant Ranger C. Perry joined the Air Force, and his place was taken by his brother, F. Perry, former lookout man on Black Rock Lookout.

Jumping Pound District.—Assistant Ranger A. E. Freeman was transferred to the Castlemount District, and his place was taken by J. Verquin, transferred from the Kananaskis District.

Aura District.—In midseason, Assistant Ranger H. R. Baker was transferred to a Northern Fire Ranging District, and his place was filled by the appointment of A. Borton.

Kananaskis District.—Assistant Ranger J. Verquin was transferred to the Jumping Pound District, and his place was filled by the appointment of H. Holgate. Holgate resigned in the fall, and his position has not as yet been filled. B. Grant was appointed Patrolman on this District at the start of the season.

Fire Fighting Equipment.—The supply of fire fighting equipment on this Forest is sufficient for our needs, and little new equipment was purchased during the season. Our only purchase of fire equipment consisted of six folding camp stoves and six galvanized iron tanks for packing gasoline fire pumps.

Forest Administration.—Forest administration has to do with timber disposal, grazing and various other uses on the Forest such as fenced pastures, drift fences, oil well drilling sites, trappers' cabins, etc.

Timber.—The demand for sawn lumber and mine timber was still great, although it was slackening off somewhat at the end of the year.

Hay.—Four haying permits were issued during the season, covering 110 tons of hay and producing a revenue of \$31.50.

Grazing.—Grazing conditions on this reserve during the past season were excellent. Moisture during the early part of the season was plentiful and forage growth, while slow in starting, soon became quite heavy. The latter part of the summer and the fall were very dry. However, subsoil moisture carried over from the previous season kept the forage in good condition. Stock entered the reserve, following a very cold long winter, in fair condition, and at the end of the season most of them were fat. The demand for Forest Reserve grazing was heavy, most ranges were stocked to capacity, and a number of applications had to be refused. A total of 304 grazing permits were issued covering 20,678 cattle, 2,206 horses and 3,541 sheep, and producing a revenue of \$15,695.58.

Losses of stock during the season from disease, poison weeds and predators, etc., were light. The greater part of the losses was due to predators, and this was especially noticeable in the southern end of the Reserve. Losses of which we had definite information were 105 cattle and horses and approximately 100 sheep.

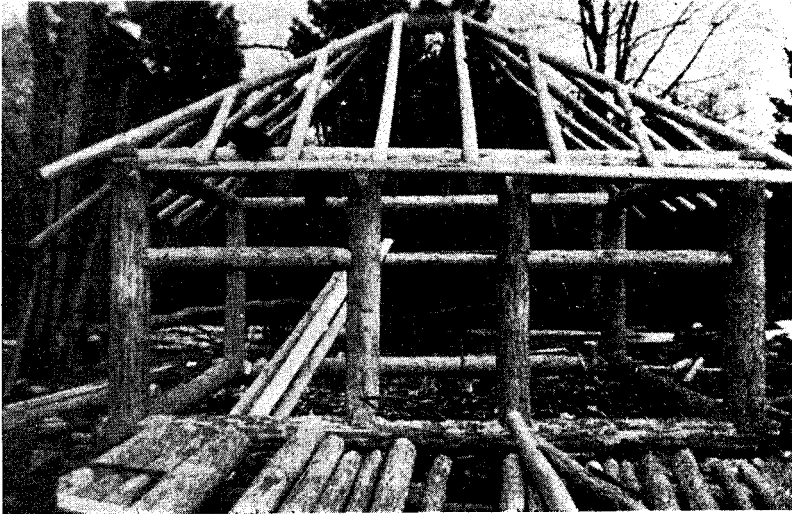
Uses.—During the season, 130 miscellaneous and grazing use permits were in effect, producing a revenue of \$697.87. These permits covered roads, sawmill sites, drift fences, corrals, trappers' cabins, fenced pastures, oil well drilling sites, etc.

Improvements.—The extremely dry weather of the latter half of the summer and of the fall curtailed to a certain extent the improvement work accomplished, as Rangers and Lookout men, during that period, had to remain in the vicinity of their headquarters in order to receive word of, and take action on, any fires that might occur.

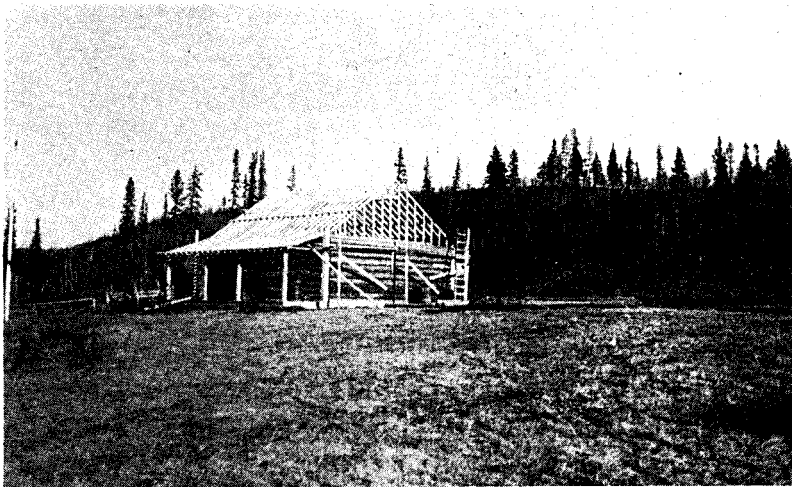
Improvements, New Construction.—There was not a great deal of work carried on, on new projects during the year. The new Aura Ranger House and Elbow Ranger Station Storehouse, started last season, were completed. A new camp shelter was completed in the Kananaskis District and a new camp shelter was started in the Elbow District. There were 229½ man-days spent on new construction work and \$1,032.51 was spent on these projects in wages.

Improvements, Maintenance.—All of our existing improvements such as houses, cabins, telephone lines, roads, trails, fences, etc., were maintained in a fairly satisfactory state. Money that had been provided for work on certain roads was not spent, as the road-building machine was not available for work in this district. Also, money that had been provided to employ a small trail crew was not utilized as the labourers for this crew could not be found. On maintenance work 1,569 man-days were utilized at a cost in wages of \$6,502.60.

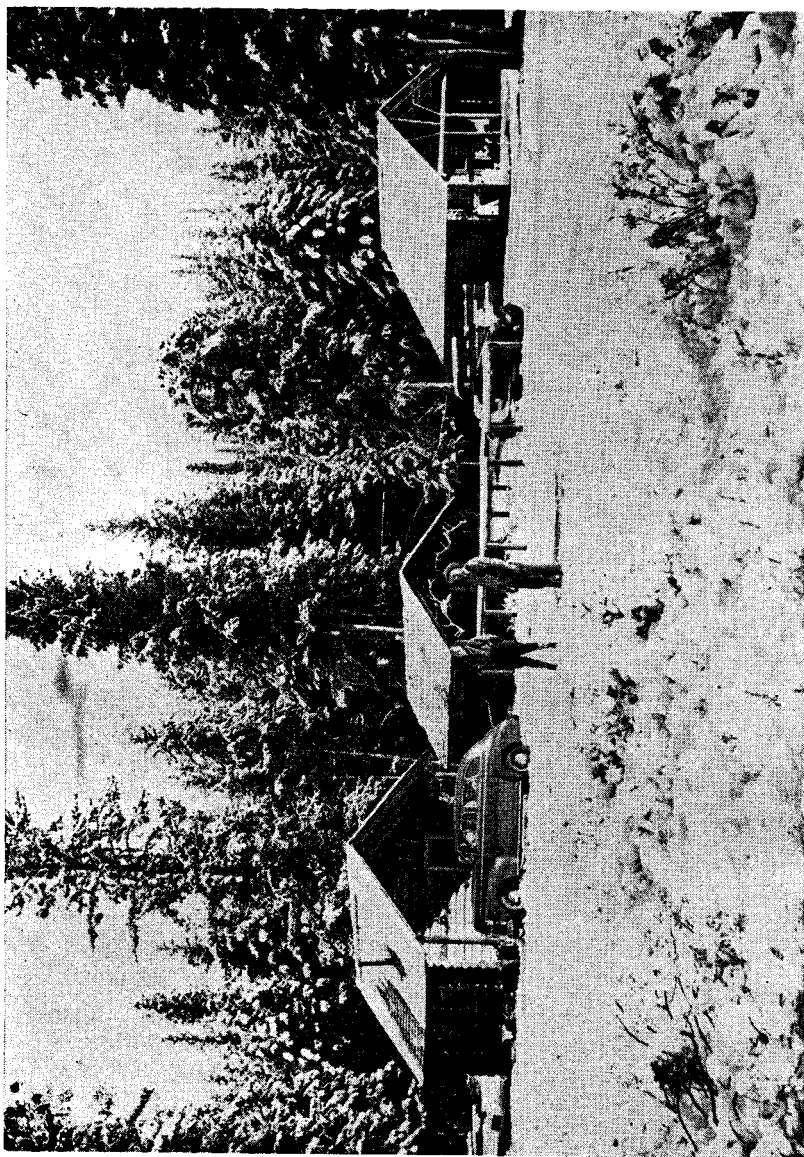
CROWSNEST-BOW RIVER FOREST RESERVE



Kananaskis District Camp Shelter under construction



Aura District Ranger Station House under construction



Kananaskis Lakes Ranger Station

CLEARWATER FOREST RESERVE

Report of Acting Forest Superintendent, J. R. H. Hall

FOREST PROTECTION

Fire Season.—The winter of 1942-43 was cold and snowfall heavy. Warm weather came late in the spring, and the snow in the woods did not melt until well on in April. The rains started early in the spring, and we had an abundance of moisture, well distributed over all the districts, and the fire danger was below normal during the entire season. However, after heavy frosts in October the forest floor was covered with rank dry grass and vegetation, and heavy chinook winds could easily have carried the fire hazard to the danger point.

Forest Administration.—All timber in the district seems to be in a healthy condition. Very few pests were found this season.

There were four new timber sales on the Clearwater Forest Reserve, and one has been applied for and will be sold in December. Last winter season was not favourable for brush burning, and we had trouble with the operators—who did not, or could not, get men for brush disposal work. However, they are now doing a good job of brush piling and will burn as soon as conditions permit.

The timber business under permit was better than last year. Timber operators have again increased in Districts No. 1 and No. 2. There is quite a demand for slabs and edging boards.

Oil wells.—The Imperial Oil Company drilled at a site on Haven Creek, seven miles west of Nordegg. They drilled during the summer, and then cemented the hole and moved their rigs to southern Alberta.

Grazing.—There was little increase in grazing. Some more of the back dues were collected from miners in the Brazeau West district. As in the past, a large number of Indian horses are running in the reserve west of Nordegg without the payment of grazing dues.

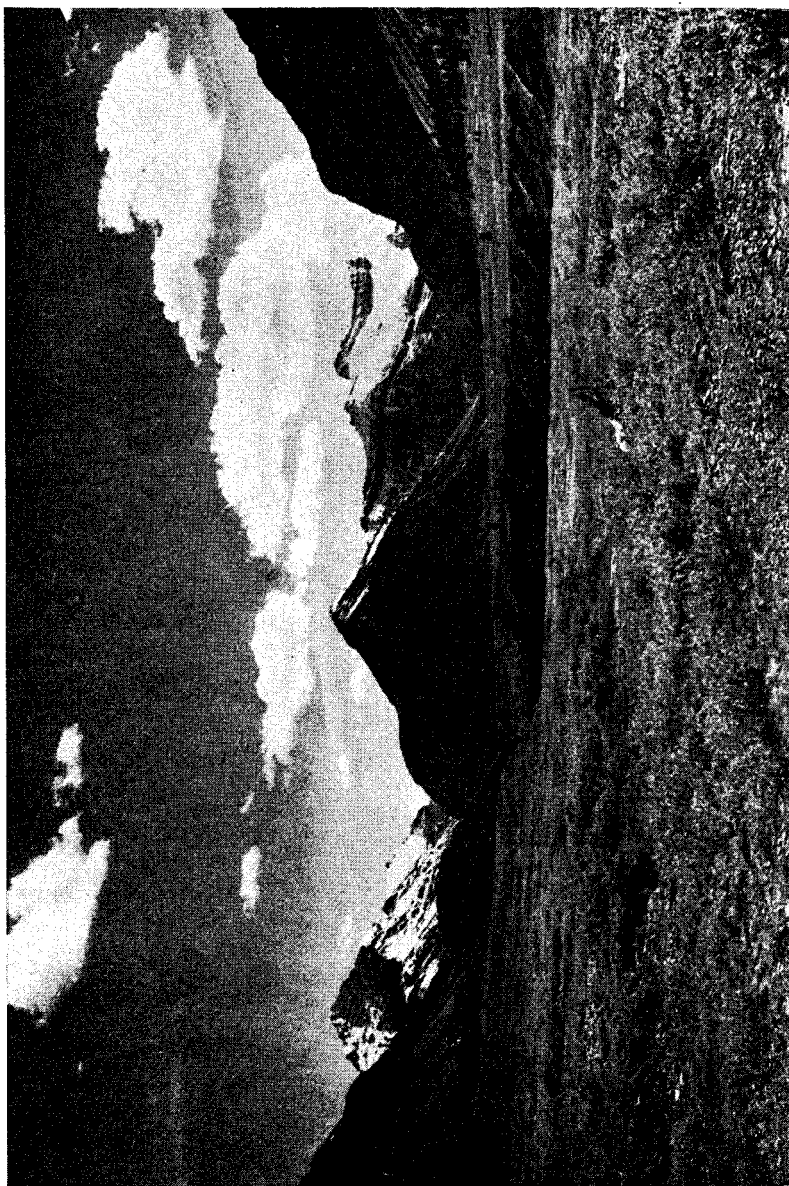
Improvements.—Rangers spent 1,320 days on improvement work. Practically all trails were cleared of windfalls, and some bridges and culverts were built or repaired. All telephone lines, except the line from the Mons cabin to the Brazeau River, are now in a good state of repair and some right-of-way was cleared of second growth. A new cabin was built at the Shunda Ranger Station. The Shunda house was painted and a cement foundation was put under the porch. All buildings at Nordegg Ranger Station were whitewashed and roofs painted red. A cement foundation was put under the barn, and new plank floors and mangers were put in. The kitchen of the Nordegg Ranger Station house was lined with ten-test and rewired. A new fir floor was laid in the kitchen and office. The ten-test was painted, and all floors were given a coat of oil and varnish. Clearing was finished on the piece of road around the "Big timber" on the Recinus-Clearwater road and the road graded. During the summer the Army trucks, taking poles from road clearing, hauled about fifty loads of gravel on to the new grade.

Personnel.—Ranger R. G. McLaughlin was appointed ranger in charge of the Ram District last spring.

Assistant Rangers Lundin of District No. 2, Cressman of District No. 1, Cutler of the Ram, and Jackson of the Red Deer District resigned in October or November.

Recreation.—A large number of people travelled in the Reserve for fishing and hunting purposes. Fishing permits sold in the Reserve amounted to 100 season and 8 three-day, and 350 free travelling permits were issued. The free permits covered approximately 994 persons. This would be a small percentage of the travellers in the Reserve, as a large number do not take out the necessary permit to travel.

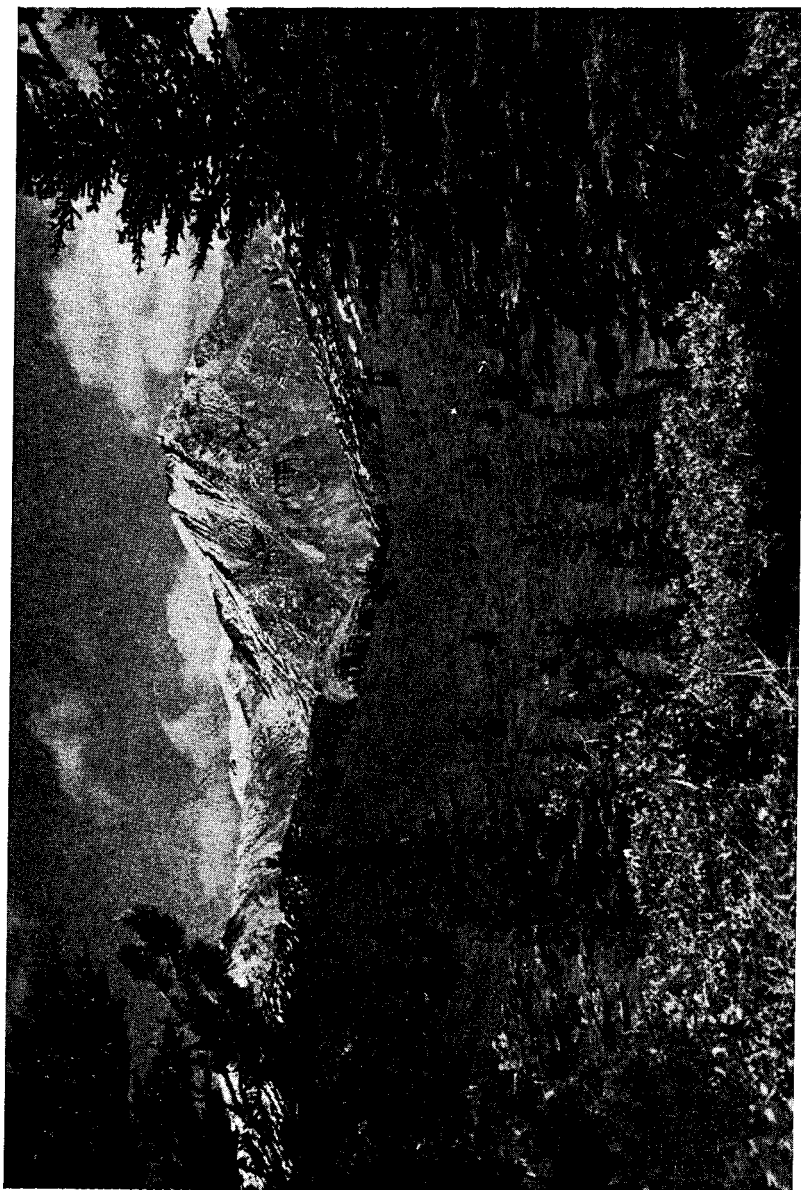
CLEARWATER FOREST RESERVE



Alpine Prairie



Tree Line



Tree Line in the Clearwater Forest Reserve



BRAZEAU-ATHABASKA FOREST RESERVE

Report of the Acting Forest Superintendent, D. Buck

RANGER DISTRICTS

No changes have been made in the districts since the revision in 1941, when changes to district boundaries were made, particularly the boundary between the MacLeod and Athabaska District, which also was the boundary between the Brazeau and Athabaska Forests. At that time the boundary was moved north to the Athabaska River, reducing the Athabaska District considerably and enlarging the MacLeod District. At the same time a new district was formed in the eastern corner of the Athabaska Reserve and named the Oldman District, after the creek by that name which flows through the district.

These changes are working satisfactorily. By enlarging the MacLeod District the Ranger in charge can make his headquarters at Hinton and supervise the timber sale operations, game and trapping activities, in addition to maintaining trails and telephone lines in that stretch between the old reserve boundary and the Athabaska River. In the past this work had been done to a large extent by the MacLeod District Ranger without receiving the credit.

The newly formed Oldman District was a portion of the Athabaska Reserve in which very little time or improvements had been spent in the past, although the district contains a large amount of merchantable spruce and pine.

The Swanson Lumber Company Limited purchased a Class "C" sale in this district in 1943, and others are expected to follow.

A start has been made to improve this district by building a standard stop-over cabin to house fire fighting tools, and to afford quarters to personnel when making inspections of the operations being conducted on timber sales in the vicinity.

Personnel.—There were seven changes in the staff during the season, due to rangers leaving either to join the Active Services or for more gainful employment. Assistant Rangers Stanley, Chapman and Watt were taken on at the 1st of May, 1943, filling vacancies which had occurred during the previous year. Assistant Ranger Berry was requested to resign in July due to frequent losses of time and lack of interest. This vacancy in the Mountain Park district remained open throughout the remainder of the year owing to lack of applications.

Assistant Ranger S. E. Parnall resigned in September to take employment as a miner with the MacLeod River Hard Coal Company, this vacancy also remained open. Ranger Burleigh was promoted to the position of timber inspector, taking the Edmonton District in July. Assistant Ranger Chapman carried on in the Muskeg District, and finally last February was appointed ranger in charge. Ranger Sherman was transferred from the Smoky District to the Northern Alberta Forest District in January at his own request, and commencing May 1st, 1944, Assistant Ranger Watt was promoted to fill this vacancy.

Since the inclusion of the game supervision and the registration of trapping areas outside the Reserve, together with the usual forestry work, the employment of all rangers and assistants on a year round basis and the large increase in the number of timber sales, their output and miscellaneous use permits, the work of the reserve office has increased to such an extent that it is impossible to keep pace with the routine office work and records without an increase in the office staff.

The large increase in railway mileage is accounted for by the travel to and from the Rangers' Conference, which was held last March in Calgary.

The Brazeau-Athabaska Forest comprises an area of 5,641 square miles, and the rangers of the Athabaska Forest are also responsible for fire protection and

suppression on an additional area of 1,487 square miles situated immediately north of the Reserve and west of the 6th Meridian, making a total of 7,128 square miles. In addition the personnel for Northern Alberta Forest Districts Nos. 7, 8 and 23 are under the supervision of this office.

Personnel: Lookouts.—Of the three radio equipped lookouts only two were manned last season owing to the low fire hazard and, I believe, the difficulty experienced by the Radio Superintendent in filling vacancies. The Adams Creek lookout was not used. The two telephone operated lookouts were manned by the same men as in the past. I wish to mention here the good work of Mr. Hendrickson at the Athabaska lookout. He has manned this tower for a number of years, and rarely requires a cross shot to determine the location of a fire.

Fires.—The annual summary of fire losses shows that satisfactory results were obtained by the rangers in suppressing fires. In the Athabaska Forest the fire losses were negligible, a total of six fires, three of Class "A" and three Class "B". The total area burnt over was four acres, with an estimated damage to timber and young growth amounting to \$7.50. One of these six fires was extinguished by the Forest Service. This one was thought to be caused by incendiarism, but fortunately it was detected immediately and extinguished before more than half an acre had been burnt over. Three of the total of six fires were started by indiscriminate burning of tie piles which had been removed from the railway track, or sparks from a locomotive. The foreman responsible for allowing two fires to spread from the burning of ties was reported to the roadmaster in charge, and I understand that demerit marks were awarded.

The remaining two fires were Class "A" caused by campers along a log road and were extinguished by the operators.

The Brazeau Forest fire losses exceeded those on the Athabaska Forest considerably, and were all within the Leyland district. Fortunately the bush was damp from recent rains when the Kaydee fire broke out, which originated in a miner's residence within the limits of the Kaydee Collieries Limited surface rights. In spite of this fact, all the Company's employees and several outsiders were required to control and extinguish the fire. The costs were defrayed by the Company.

The Kaydee townsite is considered an exceedingly dangerous spot from a fire hazard point of view, situated as it is in a deep valley amidst a heavy growth of timber line spruce.

I would like to mention at this time the valuable assistance rendered this Branch of the Service by three 'teen-age boys, who extinguished three spot fires on the Big Horn trail, also within the Leyland district, at the time the Kaydee fire was at its height. This assistance, especially at that time, was of immeasurable value, and the boys were thanked for their services.

In summing up the Brazeau Forest fire losses with a total of eight fires, 361 acres of merchantable timber, young growth and grass land were burnt over and the estimated damage amounted to \$230.00.

In addition, the Brazeau rangers extinguished two Class "A" fires and one Class "B" outside the Reserve boundaries.

At no time during the fire season was the hazard very high. The spring break-up was late without the usual dry spell following, and throughout the summer months rainfall was regular. I notice in my weekly fire report dated October 2nd, 1943, that I considered the hazard for the week covered by the report the highest that season.

Silviculture.—Owing to the increased demands for forest products, the removal of merchantable timber from the Brazeau-Athabasca Reserve has in-

creased considerably, and has reached the point where serious consideration should be given to planting, not only on cut-over areas, but also on burnt over land where for various reasons voluntary crops have not reappeared. However, I am pleased to be able to say that there are extensive stands of immature pine, a lot of it averaging 6 inches D.B.H. in a healthy conditions, especially on the Brazeau Reserve.

The great majority of tie operations are being conducted in comparatively young lodgepole pine, which is the only species of pine found on this reserve. The average age of this merchantable pine I would place at seventy-five years, averaging three and one-half ties per tree. In some stands where conditions are more favourable, trees with a D.B.H. of twelve inches reach a height of eighty-five feet. In such cases there would appear to be considerable waste, for after a top log has been cut above the tie timber, there still remains twenty to twenty-five feet with a diameter too small to be of commercial value. However, when one considers that for every merchantable tree removed from such a stand, perhaps four or five under size trees benefit, it is doubtful whether in the long run the apparent waste of timber at the time is not warranted.

With regard to the operations being conducted in spruce timber, the three main operations are on Timber Sales No. 294, Etter-McDougall Limited; No. 319, Mr. R. Craig; and No. 333, Swanson Lumber Company Limited, operated by J. Capostinsky. The first mentioned was a Class "B" sale, the other two Class "C" sales. The timber within the boundaries of Timber Sales Nos. 294 and 333 is entirely spruce, both white and englemann and over mature, many trees being over two hundred years old, and in individual instances trees have measured over four feet in diameter stump height, while three feet in diameter is not uncommon. In order to eliminate waste and time in the manufacture of these logs, overhead saws have been rigged above and slightly in front of the regular circular saw. These overhead saws are rigged in such a way that they can be brought into operation merely by raising a lever, thus eliminating the danger while such a saw is in operation.

Timber Sale No. 319 contains both spruce and pine, both species in this case being mature, and many excellent specimens of both are to be found on this sale.

The manufacture of mine timbers is also a considerable item of revenue, in most cases the mine management insist on fire killed timbers, claiming it is much stronger than the green and more easily handled underground. An interesting fact was brought to my attention recently at the K-D Mine, where they operate their own timber sale for green timber to be used in connection with their mining operations. Green pine timbers, nine inches at butt, were shown me which had absolutely crumbled under the weight, and when replaced with green spruce of the same diameter will remain in position indefinitely.

Uses.—An increase in the number of miscellaneous use permits issued during the past fiscal year is noted. A total of seventy-five permits were issued covering the following projects:

Trapper's cabins	26	Grazing cabin	1
Haul roads	14	Prospector's cabins	3
Surface rights (permits)	9	Commercial fisherman's cabin	1
Power lines	5	Boathouse	2
Cultivation permits	2	Hunting lodge	1
Dams	2	School house	1
Gasoline storage tank	1	Drift fence	1
Oil drilling sites	2	Telephone lines	2
Fenced pastures	2		

Twenty leases are maintained within the Brazeau-Athabaska Reserve covering various projects. Practically all of these are in the Brazeau Reserve, where several coal mines are located which necessitate other various projects, such as power lines, haul roads, etc.

Recently the Luscar Coals Limited and the Cadomin Coal Company Limited have extended their mining operations to include strip mining of coal seams which have been located in the vicinity of their townsites. The over-burden on these seams varies from a few feet to perhaps twenty-five in some places.

Uses Trespass.—The dwelling of Mr. W. Werzun at Robb, Alberta, has been illegally sold, and Mr. Werzun has been notified that the purchase price must be returned to the purchaser. At the expiration of the permit covering this building on May 31st, 1944, the purchaser has been advised that he will be allowed sixty days in which to vacate.

IMPROVEMENTS

New Construction.—Several minor projects were undertaken under this heading, some were commenced the previous season and are now completed, others commenced but not completed. I consider the most important were undertaken in the Athabaska District, where at Entrance headquarters the old buildings, including barns, hay shed and cache, have been torn down and the yard levelled up. The new barn and cache are now completed, and the blacksmith shop has been moved from its original site.

The bridge spanning the Hay River at Mile 16 was also completed by the filling of the piers with rock. This bridge withstood the flood waters last June, which is a fair trial of its strength.

A new standard cabin on the north-west quarter of Section 32, Township 52, Range 24, West of the 5th Meridian, was completed during the winter months. This project was undertaken as it was considered desirable to have fire fighting equipment stored in the vicinity of the timber operations recently commenced in this area, and to have accommodation for the personnel making the necessary inspections. This is the beginning of the improvements required in this eastern portion of the Athabaska Reserve.

Nothing of importance was undertaken on the Brazeau Reserve. The new lookout cabin at Luscar was completed. The telephone exchange was moved from Coalspur to Cadomin requiring approximately one-quarter of a mile of metallic telephone line spur. A new tool cache was commenced to replace the one at Mile 52, Big Horn Trail, which will be a standard stopover cabin. In order to haul material for this cabin a sleigh road had to be cut from Mountain Park, a distance of approximately six miles, to the site.

Maintenance.—The various projects coming under this heading which require constant maintenance keep the field staff fully occupied throughout the year, and even with the full time employment of both rangers and assistants the staff is not able to maintain at standard the projects within their various districts. This is no doubt due to the fact that until recently practically all field personnel were on seasonal employmen which did not afford sufficient time for maintenance. The result was that all projects deteriorated, and it is not possible to make the necessary repairs without additional assistance.

The sum of \$450.00 was appropriated last year for this work, but it was found impossible to hire suitable men at the wages offered.

We were fortunate in having the use of the bull-dozer from the Crowsnest-Bow River Forest Reserve for a portion of the summer months. As it was operated by one of the Rangers, the available funds lasted longer. The Entrance headquarters yard was levelled up and the Lower Trail was extended from the point at which the work was closed down the previous year. This road is now open for travel to Mile 22. The heaviest work was at the approaches to the Hay River where the percentage of grade had to be reduced considerably. We are now in a position to truck equipment to Moberly creek where there is a cache available if required. This will reduce travel time by at least one day,

which is considerable in case of fire. I would like very much to push on to the Little Berland cabin and eventually to the Berland River, Mile 42.5, with this work.

There is not a large amount of revenue derived from grazing. However, it calls for a considerable amount of Ranger time, as the great majority of permits cover only one or two animals, chiefly horses, which are kept by the owners to use in their leisure time.

Permits issued last season covered 531 horses and 118 cattle. Outstanding grazing dues have not been collected from Mr. T. A. Groat and Mr. F. Brewster, two of the largest stock owners, who graze their stock in the Athabaska Reserve. Both these men have been reminded of the fact, but to date their dues have not been received. Apart from these two accounts, collections are in good shape and, so far as is known, all last season's grazing dues were collected.

Equipment.—A very satisfactory list of new equipment and miscellaneous supplies were received during the year. Our aim is to equip all cabins within the Reserve with a standard amount of equipment and at the same time have sufficient on hand at key points, such as Entrance, Leyland and Coalspur, in order to send out to emergencies.

TRAPPING

The registration of trapping areas has been in effect for some time within the Reserve. There have been many changes in registration recently, due undoubtedly to men joining the Overseas Forces, and in some cases being frozen to war work. I am sorry to report that word has been received of the death overseas of Mr. Paul Sheldon, who until joining the Royal Canadian Air Force trapped in the Southesk area. Mr. Sheldon was a good trapper and a conservationist. His death was deeply felt by the members of the staff who knew him.

A total of 51 certificates were issued covering 47 registered areas, four of these areas being trapped by partners. Generally speaking, good catches were reported. Those trappers whose areas include high timbered areas had no difficulty in obtaining their limit of five marten. Fox and coyote catches showed an increase, while squirrel catches were down. A marked increase in beaver was reported along the eastern portion of the Reserve and Macleod River, as far upstream as Leyland.

This office also has charge of registered trapping areas in Districts 7, 8 and 23 of the Northern Alberta Forest District, which necessitates a considerable amount of extra work. There were 131 certificates issued after renewals or new applications had been recommended by this office.

It is being found advisable to recommend minor changes in several areas this year after the trappers have had time to go over their original boundaries. A corridor for limited trapping permits is being opened along the Macleod River east from Medicine Lodge on the Canadian National Railway. This area becomes wider as it reached the settlement at Edson.

BRAZEAU-ATHABASKA FOREST RESERVE



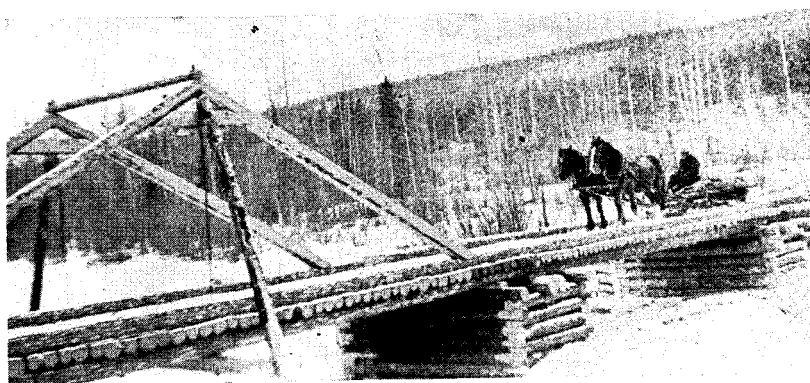
Forest Fire



Luscar Lookout



Pembina Forks Tourist Shelter



Hay River Bridge

CYPRESS HILLS FOREST RESERVE

Report of the Chief Ranger, J. D. Champion

FOREST PROTECTION

The summer of 1943 was one of the driest in the history of the country. The Ranger in charge M. T. D. Best, passed away in January, 1943, and was not replaced until July 22nd, and the work of the Reserve was carried on by the Assistant Ranger during that time. Many jobs had to be left undone, as it was impossible for one man to do all the work.

Fire Detection and Suppression. — The staff depend to a large extent on farmers and ranchers living near the reserve who are connected to headquarters by telephone for fire detection. When the Rangers leave the station on timber or game patrol their trips could also be counted as fire patrols. One camp fire had to be put out by the Forest Service after it had been burning underground for about ten days.

During August we had several bad electric storms. Lightning started three fires within six miles of the Reserve boundary, but they did not spread to the Reserve.

The public in this area are very "fire-conscious" and seem to be very careful.

Fire Fighting Equipment.—Our equipment is in very good shape. A bulldozer and tractor would be a very good investment as we have a lot of fireguard to maintain and more should be built. Storage for the equipment could be improved upon.

FOREST ADMINISTRATION

We have several patches of mistletoe on this reserve which should be controlled owing to the small amount of timber in this area. Most of the spruce is suffering from butt rot. There is a heavy demand for lumber throughout the district, and we are disposing of the spruce as saw timber.

Brush disposal is quite a problem on this reserve. As a rule, the logging is done in the summer as the snow gets too deep during the winter months. We cannot allow burning in the summer, so do as much burning as possible ourselves when the snow is on the ground. There was a very large demand for timber and fuel of all kinds throughout the year.

All timber business on this reserve is done under permit, and all pine and spruce is marked by a forest officer before being cut.

Watering Rights and Feed Lots.—A number of ranchers and farmers adjoining the Reserve have a feeding and watering ground within the Reserve, as we control most of the shelter and running water.

Pastures.—Several stockmen have pastures within the Reserve held under permit at a yearly rental of two cents an acre, plus the usual dues on stock grazed thereon. Most of these men are very pleased to be able to get these pastures, as they have good grass, water and shelter at a very moderate fee.

Grazing.—We carry on quite a large grazing business, over 3,000 head of cattle and horses graze on the Reserve during the season. We have a lot of trouble with trespass stock, mostly from farmers to the north of the Reserve. A large number of stock have to be turned away in order not to over-graze the range. Since beef has been bringing such good prices, a good many farmers are raising cattle and have no pasture for them.

Improvements.—Timber work during the year took up so much of the Rangers' time that quite a lot of the improvement work was not completed. One culvert was built at the foot of the Murray Hill. The Ranger station was lined throughout with ten-test, and cupboards were built in two bedrooms and in the

office. Telephone lines were kept up, but should have a lot of work done on them to put them in top shape.

Personnel.—Chief Ranger T. D. Best passed away in January, 1943, and in July of the same year, Ranger J. D. Champion was moved from the Crownsnest-Bow River Forest Reserve to take charge of the Cypress Hills Forest Reserve.

Recreation.—Elkwater Lake summer resort takes care of most of the holiday makers. Graburn Gap is becoming more popular, the rainbow trout in Battle Creek being the main attraction. Free camping permits have not been issued on this reserve for a good many years.

Elkwater Lake Summer Resort.—Elkwater Lake is nicely situated in the Cypress Hills on a gravelled road leading off the hard surface highway between Medicine Hat and Irvine, about three miles west of Irvine. This resort could be made into a beautiful playground.

Supervision.—The year covered by this report was a very busy one on the Reserve. Roads were good all summer and most of the winter. There was very little snow and the timber haulers were able to work in the woods and haul their timber home at any time.

There was a very heavy run on green pine rails and spruce saw timber. It is not expected that sawing operations will continue more than another year or two, as we will not have the available timber. However, the war has made it nearly impossible to get lumber at the yards, and the demand has been heavy. All the lumber is either cut by the farmers or is sold to them for use on their own farms. We have not been allowing any one to cut lumber on this Reserve and sell to the yards in the towns, although there has been a demand for it from that source.

COMPARISON OF FIRE LOSSES BY PERCENTAGE

Cause	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943
Campers	23.7	52.8	38.9	35.4	42.3	38.3	35.9	27.4	28.8	26.0	20.9	31.5	26.8
Smokers	3.2	5.3	13.5	11.7	9.3	9.7	4.5	3.6	5.0	4.8	2.2	3.3	7.5
Settlers	21.9	17.1	17.4	17.9	8.2	11.7	20.7	14.6	14.8	12.2	22.7	13.9	12.4
Railways	6.6	4.5	2.8	5.0	10.3	4.0	9.3	4.2	4.6	6.7	7.6	11.1	23.0
Lightning .....	.6	2.6	5.2	7.5	1.0	14.1	2.2	2.3	4.0	2.8	1.6	.9	.4
Industrial operations	1.9	1.1	1.7	4.2	1.0	3.2	.8	1.4	1.4	.6	1.4	3.6	1.9
Incendiary	15.1	8.2	11.8	11.2	22.7	10.1	13.5	14.6	9.8	8.9	10.8	6.9	5.7
Public Works	1.4	.5	1.4	1.3	1.0	.4	.3	.8	.6		.2	.5	.4
Unclassified	1.5	1.6		2.5	2.1	2.0	7.2	9.0	13.4	16.9	8.8	10.2	7.5
Unknown	24.1	6.3	7.3	3.3	2.1	6.5	5.6	22.1	17.6	21.1	23.8	18.1	14.4

RAILWAY FIRE LOSSES, CALENDAR YEAR 1943

This statement deals only with fires burning on forested territory under the supervision of the Alberta Forest Service, and which started within 300 feet of the centre line of the railway right of way.

Causes and number of fires:

Railways causes—Locomotives	64
Employees	4
Sub-total	68
Other causes—Campers and travellers	2
Settlers	4
Unknown	12
Unclassified	2
Sub-total	20

TOTAL

88

Number of acres burned:

Slashing or old burn	1,833
Timber land	845
Young growth	4,385 ¼
Not forested	9,031 ½
TOTAL	16,095 ¼

Loss:

Timber	\$ 566.50
Young growth	10,569.70
Forest products	9.00
Other property	867.00
TOTAL	\$12,012.20

ANNUAL STATEMENT OF FIRES BY CAUSES, MONTHLY DISTRIBUTION, ETC., WITHIN AND OUTSIDE FOREST RESERVES, ALBERTA—CALENDAR YEAR, 1943

Cause	Number					P.C.	Damage	Area, Acres	Monthly Distribution												Fires Inside Provincial Forests		Fires Outside Provincial Forests		
	Tot.								January	February	March	April	May	June	July	August	September	October	November	December	No.	Area, Acres	No.	Area, Acres	
	A	B	C	D	E																				
Camp-fires	25	12	16	18	71	26.8	\$ 110,143.88	127,865	1		3	4	13	4		4	15	15	8	4	12	1	59	127,864	
Smokers	7	5	3	20	35	7.5	1,741.10	4,589							3	1	4	6	3	1	8	70	12	4,519	
Settlers	3	2	11	17	33	12.4	60,220.94	81,197½				5	17	1			4	5	1				33	81,197½	
Railways	8	29	20	4	61	23.0	8,134.00	8,946½				3	25	11	4	3	10	4		1	3½		58	8,943	
Lightning		1			1	.4	11.25	8													8				
Industrial operations	1		4		5	1.9	1,544.00	305															4	285	
Incendary	1	4	7	3	15	5.7	2,140.00	37,517½				4	4	1		2	1	2		1	½		14	37,517½	
Public Works	1				1	.4		14										1					1	1½	
Unclassified	3		8	3	20	7.5	5,390.68	6,144½				4	10		1	1	2	1					20	6,144½	
Unknown	8	11	15	4	38	14.4	7,831.50	248,576¼				3	13	4	2	1	6	6	2	1	300		37	248,576¼	
TOTALS	57	70	86	52	265	100.0	\$ 197,157.35	515,149¼	1		3	23	87	21	13	11	44	39	14	9	27	403	238		514,746¼
Per cent.	21.5	26.4	32.5	19.6		100.0			.3		1.2	8.7	32.8	7.9	4.9	4.0	16.7	14.8	5.3	3.4	10.5			89.5	

ANNUAL SUMMARY OF FOREST FIRE LOSSES, ALBERTA—CALENDAR YEAR, 1943

FIRE CAUSES	NUMBER OF FIRES					LANDS AFFECTED								LOSS										SUPPRESSION COSTS			Burning Permits Issued
						Ownership		AREA Total, Acres	CONDITION				TIMBER (MERCHANTABLE AND CUT-OVER)						Loss of Timber	Loss of Young Growth	Loss of Other Property	Total Loss	Ranger Service	Other Expenditures	Total		
	Public, Acres	Private, Acres	Merchantable Timber, Acres	Cut-over Timber, Acres	Young Growth, Acres	Not Forested, Acres	SALVABLE			UNSALVABLE																	
							Saw-timber, M.ft.B.M.	Other, Cords	Depreciation	Saw-timber, M.ft.B.M.	Other, Cords	Loss															
FIRES WITHIN FOREST RESERVES																											
Campers	11	1			12	1		1	1							3	\$ 2.25	\$ 2.25				\$ 2.25	\$ 52.22		\$ 52.22		
Smokers	3	3	2		8	70		70	28		19	23		3		46	33.60	33.60	\$ 75.00			108.60	153.09	\$ 429.73	582.82		
Settlers																							21.76		21.76		
Railways	1	2			3	3 1/2		3 1/2				3 1/2										11.25	123.80	176.18	299.98		
Lightning		1			1	8		8	8							30	11.25	11.25				11.25	90.31	3.65	93.96		
Industrial operations			1		1	17	3	20		20				200			150.00	150.00		\$ 300.00		450.00	22.20	4.50	26.70		
Incendiary		1			1	1 1/2		1 1/2	1 1/2					10			7.50	7.50				7.50					
Unclassified											10	290		3			50.00	50.00				50.00	161.84	282.65	444.49		
Unknown			1		1	300		300																			
TOTALS	15	8	4		27	400	3	403	37 1/2	20	29	316 1/2		216		79	\$ 254.60	\$ 254.60	\$ 75.00	\$ 300.00	\$ 629.60	\$ 625.22	\$ 896.71	\$ 1,521.93			
FIRES OUTSIDE FOREST RESERVES																											
Campers	14	11	16	18	59	127,464	400	127,864	39,341 1/4	2,266	29,359	56,897 1/4	537	800	\$ 737.00	34,951	88,914	\$ 63,424.00	\$ 64,161.00	\$ 45,645.63	\$ 335.00	\$ 110,141.63	\$ 1,316.02	\$ 8,595.70	\$ 9,911.72		
Smokers	3	3	3	3	12	3,329	1,190	4,519	330	992	256 1/2	2,940 1/2		320	52.00		2,041	1,447.50	1,499.50	103.00	30.00	1,632.50	150.33	277.61	427.94		
Settlers	3	2	11	17	33	57,106 1/2	24,091	81,197 1/2	4,938	1,755	18,152	56,352 1/2	2,183	1,375	2,375.97	4,125	32,020	29,515.97	31,891.94	26,279.00	2,050.00	60,220.94	504.01	2,599.50	3,103.51		
Railways	7	27	20	4	58	5,693	3,250	8,943	825	2,500	425 3/4	5,192 1/4	27		27.00		13,825	7,039.50	7,066.50	1,067.50		8,134.00	69.47	502.65	572.12		
Lightning																											
Industrial operations	1		3		4	285		285	114	101	70		25	182	82.50		840	661.50	744.00	350.00		1,094.00	77.50	312.44	389.94		
Public Works	1				1																						
Incendiary	1	3	7	3	14	8,912	28,605	37,517 1/2	55		800	36,662		10			194	132.50	132.50	2,000.00		2,132.50	100.28	535.32	6,350.60		
Unclassified	3	6	8	3	20	3,910 1/4	2,234	6,144 1/4	333	371	136 3/4	5,303 1/2	247	4,703	2,020.62	543	435	2,774.13	4,794.75	595.93		5,390.68	375.28	1,745.71	2,120.99		
Unknown	8	11	14	4	37	247,921 1/4	355	248,276 1/4	1,155 1/2	1,255	27	245,838 1/4	200	8,100	2,650.00	1,430	102	5,055.00	7,705.00	67.50	9.00	7,781.50	389.70	2,130.39	2,520.09		
TOTALS	41	63	82	52	238	454,621 1/4	60,125	514,746 1/4	47,092 1/4	9,240	49,227	409,187	3,219	15,480	7,945.09	41,049	138,371	\$ 110,050.10	\$ 117,995.19	\$ 76,108.56	\$ 2,424.00	\$ 196,527.75	\$ 2,982.59	\$ 17,782.25	\$ 20,764.84		
FIRES WITHIN AND WITHOUT FOREST RESERVES																											
Campers	25	12	16	18	71	127,465	400	127,865	39,342 3/4	2,266	29,359	56,897 1/4	537	800	737.00	34,951	88,917	\$ 63,426.25	\$ 64,163.25	\$ 45,645.63	\$ 335.00	\$ 110,143.88	\$ 1,368.24	\$ 8,595.70	\$ 9,963.94		
Smokers	6	6	5	3	20	3,399	1,190	4,589	358	992	275 1/2	2,963 1/2		323	52.00		2,087	1,481.10	1,533.10	178.00	30.00	1,741.10	150.33	277.61	427.94		
Settlers	3	2	11	17	33	57,106 1/2	24,091	81,197 1/2	4,938	1,755	18,152	56,352 1/2	2,183	1,375	2,375.97	4,125	32,020	29,515.97	31,891.94	26,279.00	2,050.00	60,220.94	504.01	2,599.50	3,103.51		
Railways	8	29	20	4	61	5,696 1/2	3,250	8,946 1/2	825	2,500	425 3/4	5,195 3/4	27		27.00		13,825	7,039.50	7,066.50	1,067.50		8,134.00	69.47	502.65	572.12		
Lightning		1			1	8		8	8									30	11.25	11.25			11.25	123.80	176.18	299.98	
Industrial operations	1		4		5	302	3	305	114	121	70		25	382	82.50		840	811.50	894.00	350.00	300.00	1,544.00	167.81	316.09	483.90		
Public Works	1				1																						
Incendiary	1	4	7	3	15	8,912 1/2	28,605	37,517 1/2	55 1/2		800	36,662		10			194	140.00	140.00	2,000.00		2,140.00	100.28	535.32	6,350.60		
Unclassified	3	6	8	3	20	3,910 1/4	2,234	6,144 1/4	333	371	136 3/4	5,303 1/2	247	4,703	2,020.62	543	435	2,774.13	4,794.75	595.93		5,390.68	375.28	1,745.71	2,120.99		
Unknown	8	11	15	4	38	248,221 1/4	355	248,576 1/4	1,155 1/2	1,255	37	246,128 1/4	200	8,103	2,650.00	1,430	102	5,105.00	7,755.00	67.50	9.00	7,831.50	389.70	2,130.39	2,520.09		
TOTALS	56	71	86	52	265	455,021 1/4	60,128	515,149 1/4	47,129 3/4	9,260	49,256	409,503 1/2	3,219	15,696	\$ 7,945.09	41,049	138,450	\$ 110,304.70	\$ 118,249.79	\$ 76,183.56	\$ 2,724.00	\$ 197,157.35	\$ 3,607.81	\$ 18,678.96	\$ 22,286.77		
SUMMARY BY DIVISIONS																											
N.A.F.D.*	32	58	82	52	224	454,609	60,125	514,734	47,092 1/4	9,238	49,216 3/4	409,187	3,219	15,478	\$ 7,945.09	41,049	138,370	\$ 110,048.10	\$ 117,993.19	\$ 76,085.56	\$ 2,385.00	\$ 196,463.75	\$ 2,875.00	\$ 16,559.47	\$ 19,434.47		
Clearwater	11	5			16	7 1/4		7 1/4	1	2	4 1/4						13	6.35	6.35	10.50	39.00	55.85	112.11	20.70	132.81		
Crowsnest-Bow	4	3	1		8	41		41	8		11	22					30	11.25	11.25	20.00		31.25	224.31	616.53	840.84		
Brazeau-Athabaska	9	5	3		17	364	3	367	28 1/2	20	24	294 1/2		218			37	239.00	239.00	67.50	300.00	606.50	396.39	399.33	795.72		
Cypress Hills																											
TOTALS	56	71	86	52	265	455,021 1/4	60,128	515,149 1/4	47,129 3/4	9,260	49,256	409,503 1/2	3,219	15,696	\$ 7,945.09	41,049	138,450	\$ 110,304.70	\$ 118,249.79	\$ 76,183.56	\$ 2,724.00	\$ 197,157.35	\$ 3,607.81	\$ 18,678.96	\$ 22,286.77		

M.ft.B.M.—Thousand feet board measure.
*N.A.F.D.—Northern Alberta Forest District

SUMMARY SHOWING TOTAL NUMBER OF FIRES AND BURNT OVER AREA
FROM 1931 TO 1943 INCLUSIVE

Year	Total No. of Fires	Total Acreage	Not Forested	Net Acreage
1931	622	604,876.12	209,064.75	395,811.37
1932	379	136,117.89	68,253.42	67,864.47
1933	288	93,765	30,955.88	62,809.12
1934	240	58,870	21,656.5	37,213.5
1935	97	6,319.75	3,267.75	3,052
1936	248	204,454	46,534	157,920
1937	375	835,259	155,069.5	680,189.5
1938	521	1,758,345.5	842,384	915,961.5
1939	499	429,139.25	159,774.5	269,364.75
1940	313	474,244.25	108,597.5	365,646.75
1941	445	1,355,424.5	459,475	895,949.5
1942	215	325,815.75	182,208.25	143,607.5
1943	265	515,149.25	409,503.5	105,645.75
	4,507	6,797,780.26	2,696,744.55	4,101,035.71

TIMBER CUT UNDER PERMIT, ALBERTA FOREST RESERVES—FISCAL YEAR 1943-44

	Cypress Hills	Crownest- Bow River	Clearwater	Brazeau- Athabaska	Totals
Number of permits	555	260	38	46	899
Fuelwood, dry (cords)	773	1,651	116	58	2,598
Fuelwood, green (cords)		4	630	18	652
Mine timber, dry (lineal feet)		711,500		229,714	941,214
Mine timber, green (lineal feet)			109,333	6,600	115,933
Lagging (cords)		22 1/2			22 1/2
Lagging (lineal feet)		247,000	12,500		259,500
Fence posts	46,556	9,562	9,073	200	65,391
Saw logs (F.B.M.)		295,000		179,000	474,000
Round timber (pieces)	58,185	20,108	13,825	300	92,418
Round timber (lineal feet)		13,514	3,761	6,930	24,205
Fence droppers (pieces)		825			825
Telephone poles (lineal feet)				1,955	1,955
Railways ties				6,040	6,040
Fence droppers (lineal feet)		600			600
Mine ties (lineal feet)		2,600	5,000	6,644	14,244

TIMBER OPERATIONS ON FOREST RESERVE TIMBER SALES—FISCAL YEAR 1943-44

	Crownest- Bow River	Clearwater	Brazeau- Athabaska	Totals
Number of active operations	20	15	27	62
Lumber, feet board measure	7,148,022	2,899,503	6,256,634	16,304,159
Railway ties		23,151	97,810	120,961
Mine timber (lineal feet)	1,038,007	990,502	386,338	2,414,847
Lagging, lineal feet	676,029	9,588		685,617
Building logs and culvert timber (lineal feet)		856	23,804	24,660
Fence posts	145			145
Fuelwood, cords	9	14 1/2		23 1/2
Mine ties (lineal feet)			18,292	18,292

STATEMENT OF TIMBER OPERATIONS FOR 1943-44 ON PROVINCIAL LANDS
IN THE EDMONTON DISTRICT AND IN THE CALGARY AND PEACE RIVER LAND AGENCIES

(a) OPERATIONS ON LICENCE TIMBER BERTHS:

	Head Office Edmonton District	Calgary Agency	Peace River Agency	Totals
Number of active operations	58	23	.....	81
Lumber, feet, board measure	65,079,064	6,506,091	.....	71,585,155
Railway ties	171,808	2,456	.....	174,264
Mine timber, lineal feet	584	1,774,373	.....	1,774,957
Slabs, cords	.....	275	.....	275
Lath	147,750	.....	.....	147,750
Building logs, lineal feet	25,230	.....	.....	25,230
Lagging	.....	243,630	.....	243,630

(b) OPERATIONS ON TIMBER PERMIT BERTHS:

	Head Office Edmonton District	Calgary Agency	Peace River Agency	Totals
Number of active operations	225	57	.....	282
Lumber, feet, board measure	51,437,104	9,559,140	.....	60,996,244
Railway ties	424,487	160,844	.....	585,331
Mine timber, lineal feet	7,810	344,184	.....	351,994
Lath	.....	86,100	.....	86,100
Lagging, lineal feet	.....	415,224	.....	415,224
Telegraph and telephone poles, lineal feet	16,125	2,745	.....	18,870
Building logs and culvert timber, lineal feet	18,821	720	.....	19,541
Fence posts	119	.....	.....	119
Slabs, cords	203 1/2	338	.....	541 1/2

(c) OPERATIONS UNDER SPECIAL TIMBER PERMITS:

(Sec. 68 of the Timber Regulations)

	Head Office Edmonton District	Calgary Agency	Peace River Agency	Totals
Number of active operations	483	76	.....	559
Lumber, feet, board measure	12,266,566	1,616,088	.....	13,882,654
Railway ties	281,418	49,218	.....	330,636
Piling, lineal feet	129,137	.....	.....	129,137
Mine timber, lineal feet	85,000	.....	.....	85,000
Telegraph and telephone poles, lineal feet	200	7,822	.....	8,022
Building logs and culvert timber, lineal feet	67,800	.....	.....	67,800
Fuelwood, cords	559	2	.....	561
Shingles	60,000	.....	.....	60,000
Birch veneer, lbs.	4,837,260	.....	.....	4,837,260
Slabs, cords	.....	140	.....	140

*(d) PROVINCIAL LANDS TIMBER PERMITS ISSUED AUTHORIZING
THE CUTTING OF MATERIAL SHOWN HEREUNDER:

Number of permits issued	1,737	240	916	2,893
Building logs, lineal feet	31,306	6,342	82,780	120,428
Mine timber, lineal feet	645,540	876,000	4,500	1,526,040
Mine Lagging, lineal feet		1,046,000		1,046,000
Telephone poles, lineal feet		2,860		23,718
Piling, lineal feet	19,366		1,492	19,471
Lumber, feet, board measure	5,030		14,441	12,751,589
Fence posts	7,590,096	107,024	5,054,469	183,159
Fence droppers	112,943	39,815	30,401	7,400
Roof poles		7,400		37,083
Fence rails	8,933	1,350	26,800	150,063
Fuelwood, cords	10,176	5,625	134,262	17,671
Railway ties	11,815	2,492	3,364	61,250
Shingles	1,400	700	59,150	455,000
Shingle bolts, cords	365,000		90,000	454½
Signal poles	327½		127	49,025
	17,500	31,525		

*The figures shown under this heading are the amounts authorized to be cut. The amounts actually cut under this heading are not available.

STATEMENT OF TIMBER OPERATIONS FOR 1943-44 ON SCHOOL LANDS
IN THE EDMONTON DISTRICT AND IN THE CALGARY AND PEACE RIVER LAND AGENCIES

(a) OPERATIONS ON TIMBER PERMIT BERTHS:

	Head Office Edmonton District	Calgary Agency	Peace River Agency	Totals
Number of active operations	21	4		25
Lumber, feet board measure	3,302,768	1,201,228		4,503,996
Railway ties	2,601			2,601

(b) OPERATIONS UNDER SPECIAL TIMBER PERMITS:

(Section 25 (g) of the Timber Regulations)

	Head Office Edmonton District	Calgary Agency	Peace River Agency	Totals
Number of active operations	29	4		33
Lumber, feet board measure	711,599	260,233		971,832
Railway ties	1,001	600		1,601
Building logs and culvert timber, lineal feet	540			540

* (c) SCHOOL LANDS TIMBER PERMITS ISSUED AUTHORIZING THE
CUTTING OF MATERIAL SHOWN HEREUNDER:

	Head Office Edmonton District	Calgary Agency	Peace River Agency	Totals
Number of permits issued	462	58	50	570
Building logs, lineal feet	7,361	2,250	1,300	10,911
Mine timber, lineal feet	42,350	28,000		70,350
Mine lagging, lineal feet		38,000		38,000
Lumber, feet board measure	710,098	43,265	185,000	938,363
Fence posts	8,850	7,850	400	17,100
Fence rails		200		200
Fence posts	1,600	100	105	1,805
Fence rails	3,693	420	168	4,281
Fuelwood, cords				
Mine ties	575			575
Shingles	20,000		2,000	22,000
Shingle bolts, cords	10			10
Railway ties			4,000	4,000
Signal poles	11,900	3,350		15,250
Radio poles			2	2

*The figures shown under this heading are the amounts authorized to be cut. The amounts actually cut under this heading are not available.

SUMMARY OF TIMBER OPERATIONS ON PROVINCIAL AND SCHOOL LANDS, 1943-44

	PROVINCIAL LANDS				SCHOOL LANDS				FOREST RESERVES				
	Licence Timber Berths	Permit Timber Berths	Special Section 68	Other Permits	Permit Timber Berths	Special Section 25 (g)	Other Permits	Timber Sales	Timber Permits	Totals	Timber Sales	Timber Permits	Totals
Number of active operations	81	282	559	2,893	25	33	570	62	899	5,404			
Lumber, feet, board measure	71,585,155	60,996,244	13,882,654	12,751,589	4,503,996	971,832	938,363	16,304,159	474,000	182,407,992			
Railway ties	174,264	585,331	330,636	61,250	2,601	1,601	4,000	120,961	6,040	1,286,684			
Piling, lineal feet			129,137	19,471						148,608			
Mine timber, lineal feet	2,018,587	767,518	85,000	2,572,040			108,350	3,100,464	1,339,147	9,991,106			
Telegraph and telephone poles, lineal feet		18,870	8,022	23,718		540	10,911	24,660	1,955	52,565			
Building logs and culvert timber, lineal feet	25,230	19,541	67,800	120,428			1,805		24,205	293,315			
Fence rails				150,063			17,100	145	65,391	265,914			
Fence posts		119		183,159					945	8,345			
Fence droppers				7,400			200			37,283			
Roof poles				37,083			4,281			25,786½			
Fuelwood, cords			561	17,671				23½	3,250	956½			
Slabs, cords	275	541½	140							35,124			
Mine ties, lineal feet							2,588	18,292	14,244	537,000			
Shingles			60,000	455,000			22,000						
Shingles bolts, cords				454½			10			464½			
Lath	147,750	86,100								233,850			
Birch veneer, lbs.			4,837,260							4,837,260			
Round timber, pieces										92,418			
Radio poles, number							2		92,418	2			
Signal poles, number				49,025			15,250			64,275			
Number of inspection reports submitted by timber inspectors										2,699			
Number of timber seizures made										156			

DEPARTMENT OF LANDS AND MINES

GRAZING STATEMENT—ALBERTA FOREST SERVICE, 1943-44

Forest	No. of Permits	No. of Horses	No. of Cattle	No. of Sheep
Cypress Hills	56	529	2,526	.....
Crowsnest-Bow River	304	2,206	20,678	3,541
Clearwater	62	689	290	.....
Brazeau-Athabaska	105	531	118	1
TOTALS	527	3,955	23,612	3,542

COMPARATIVE STATEMENT, GRAZING—ALBERTA FOREST SERVICE

	1931	1932	1933	1934	1935	1936	1937	1938
Number of permits	456	606	493	517	533	497	529	437
Number of cattle	15,041	20,086	20,230	22,557	25,097	23,407	18,921	22,280
Number of horses	3,417	3,377	3,185	2,541	2,207	2,441	3,418	3,024
Number of sheep	4,379	7,465	6,705	3,078	4,114	5,443	3,174	4,791
	1939	1940	1941	1942	1943	Totals	Average	
Number of permits	482	435	479	507	527	6,498	499.8	
Number of cattle	22,386	23,831	22,451	22,857	23,612	282,756	21,750.4	
Number of horses	2,731	3,194	3,332	3,731	3,955	40,553	3,119.4	
Number of sheep	6,883	3,954	4,745	4,722	3,542	62,995	4,845.8	

IMPROVEMENT STATEMENT																
NEW CONSTRUCTION PROJECTS:																
Forest	Houses	Garages, Sheds, etc.	Fences	Water Supply Systems	Barns and Stables	Telephones (miles)	Corrals	Bridges	Grounds	Trails (Miles)	Cabins	Fireguard Roads (Miles)	Tourist Stoves	Fields (breaking in acres)	Radio Portables	Miscellaneous
Cypress Hills	2	14	2	1	1	1½	3	1	4	20¾	5	8	...	...	1	...
Crownest	...	3	...	1	...	...	...	...	1	2	1	8	...	...	1	...
Bow River	1	1	...	...	...	...	1	...	1	5½	1	...	...	...	...	2
Clearwater	...	4	...	...	...	½	2	1	1	12½	1	...	...	...	...	...
Brazeau	1	2	...	...	1	...	...	...	...	2¾	2	...	...	...	...	...
Athabaska	...	4	2	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS	2	14	2	1	1	1½	3	1	4	20¾	5	8	...	...	2	4

MAINTENANCE PROJECTS:																
Forest	Houses	Cabins	Barns and Stables	Telephones (Miles)	Trails (Miles)	Roads (Miles)	Fences	Corrals	Water Supply Systems	Garages, Sheds, etc.	'Cook-out' Towers and Cabins	Grounds	Hay Meadows & Pastures	Ferries	Bridges	Miscellaneous
Cypress Hills	1	4	1	12½	187¾	90½	1	...	1	2	...	1	...	...	...	1
Crownest	9	...	5	139½	320½	97½	16	2	3	6	...	8	3	...	1	3
Bow River	5	11	9	241½	814¾	428	18	8	7	9	...	14	7	...	...	6
Clearwater	4	...	4	184	300½	20½	...	...	...	6	17	3	...	...	...	...
Brazeau	4	6	2	197½	468	99	8	...	1	7	3	3	...	...	...	4
Athabaska	2	13	2	79	468	99	6	2	2	4	1	2	3	...	...	1
TOTALS	25	34	23	874	2,291½	735½	49	12	14	34	21	28	13	...	1	15

IMPROVEMENTS—STATEMENT OF MAN-DAYS WORKED

NEW CONSTRUCTION PROJECTS:

Forest	Houses	Garages, Sheds, etc.	Fences	Look-out Towers	Water Supply System	Barns and Stables	Telephones	Corrals	Bridges	Grounds	Trails	Cabins	Tourist Scares	Fireguard Roads	Radio Portables	Miscel- laneous
Cypress Hills	...	49 1/2	...	...	37 1/2	...	...	...	...	38	...	38	...	6 1/2	2	...
Crowsnest	57 1/2	129	...	...	...	...	...	...	...	1	12	22	...	...	5	...
Bow River	...	104	...	...	...	...	...	2	...	...	15	45 1/2	...	...	4	5
Clearwater	23 1/2	71	64	...	...	14 1/2	8	...	...	...	30 1/2	115 1/2	...	...	...	14 1/2
Brazeau	...	26 1/2	20 1/2	...	...	...	...	4	...	...	...	...	...	...	...	...
Athabaska	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS	81	380	84 1/2	...	37 1/2	14 1/2	8	6	...	39	57 1/2	221	...	6 1/2	11	19 1/2

MAINTENANCE PROJECTS:

Forest	Houses	Cabins	Barns and Stables	Telephones	Trails	Roads	Fences	Corrals	Water Supply Systems	Garages, Sheds, Etc.	Look-out Towers and Cabins	Grounds	Hay Meadows & Pastures	Ferries	Bridges	Miscel- laneous
Cypress Hills	31 1/2	...	15	17 1/2	30	2	2 1/2	...	4	1 1/2	...	3 1/2	...	...	...	5
Crowsnest	97	8	22 1/2	213 1/2	298 1/2	122 1/2	187	5 1/2	2	38 1/2	...	55 1/2	41 1/2	...	204	9
Bow River	28 1/2	41 1/2	40	259	288 1/2	251 1/2	351 1/2	82	25	177 1/2	1	108	29 1/2	...	...	12
Clearwater	88	64 1/2	85	260 1/2	481	144	165 1/2	42	...	10 1/2	10 1/2	14	21	7 1/2	...	6
Brazeau	47	25	7	157	217 1/2	13	59	...	2 1/2	40	76 1/2	17 1/2	17 1/2	...	...	24
Athabaska	13 1/2	32 1/2	20 1/2	108	136	196	54	2	17 1/2	66	8 1/2	38 1/2	10 1/2	...	...	37
TOTALS	305 1/2	171 1/2	190	1,015 1/2	1,163	729	819 1/2	131 1/2	51	334	97	237	102 1/2	7 1/2	204	93

MILEAGE TRAVELLED BY EMPLOYEES OF THE ALBERTA FOREST SERVICE
FISCAL YEAR 1943-44

Divisions	Foot	Saddle	Driving	Speeder	Auto	Canoe	Rowboat	Motorboat	Plane	Railway	Other	Total
Northern Alberta Forest District	29,390	32,964 1/4	19,307 1/2	10,689	167,365	1,478	183	4,613	1,630	30,142	5,775 1/2	303,537 1/4
Crowsnest-Pow River Forest	3,983	57,509	4,350	.....	87,201	.....	37	.....	.....	3,220	.....	156,300
Clearwater Forest	6,427 1/4	14,648 1/2	1,890	1,338	39,885 1/2	.....	5	.....	.....	5,626	296	70,116 1/4
Brazeau-Athabasca Forest	9,581	14,824	1,169	5,679	39,849	.....	.....	148	.....	16,733	.....	87,983
Cypress Hills Forest	559 1/2	371	149	.....	10,912	.....	.....	.....	.....	352	.....	12,343 1/2
Radio	58	413	132	.....	10,673	.....	.....	.....	1,700	2,934	180	16,090
TOTALS	49,998 1/4	120,729 3/4	26,997 1/2	17,706	355,885 1/2	1,478	225	4,761	3,330	59,007	6,251 1/2	646,370

Tree Distribution.—The following species and quantities were given out from Oliver in the Spring of 1944:

<i>Transplants:</i>		
White Spruce (<i>Picea glauca</i>)	16,625	
Lodgepole Pine (<i>Pinus murrayana</i>)	7,733	
Red Pine (<i>Pinus resinosa</i>)	952	
Scotch Pine (<i>Pinus sylvestris</i>)	563	
Green Ash (<i>Fraxinus pennsylvanica</i>)	4,888	
Red Oak (<i>Quercus rubra</i>)	2,162	
Bur Oak (<i>Quercus macrocarpa</i>)	4,242	
Siberian Larch (<i>Larix sibirica</i>)	2,472	
American Elm (<i>Ulmus americana</i>)	840	
Douglas Fir (<i>Pseudotsuga mucronata</i>)	1,287	
Yellow Pine (<i>Pinus ponderosa</i>)	980	
Norway Spruce (<i>Picea excelsa</i>)	1,583	
Shagbark Hickory (<i>Carya ovata</i>)	822	
Colorado Blue Spruce (<i>Picea pungens</i>)	900	
		46,049
<i>Cuttings:</i>		
Laurel Leaf Willow (<i>Salix Pentandra</i>)	12,225	
Golden Willow (<i>Salix vitellina</i>)	6,450	
North-West Poplar (<i>Populus</i>)	17,125	
		35,800
<i>Ornamental Species:</i>		
Native Hawthorne (<i>Crataegus</i>)	4	
Honeysuckle (<i>Lonicera ciliosa</i>)	21	
Elderberry	10	
Flowering Almond (<i>Prunus triloba</i>)	5	
Eastern Cedar (<i>Thuja occidentalis</i>)	64	
Lilacs (<i>Syringa japonica</i>)	126	
Chinese Elm (<i>Ulmus pumila</i>)	45	
Cotoneaster (<i>Acutifolia</i>)	32	
White Birch (<i>Betula populifolia</i>)	14	
		321

The following species and quantities were given out from Lethbridge in the spring of 1944:

<i>Transplants:</i>		
White Spruce (<i>Picea glauca</i>)	1,025	
Lodgepole Pine (<i>Pinus murrayana</i>)	125	
Green Ash (<i>Fraxinus pennsylvanica</i>)	510	
Caragana (<i>Caragana arborecens</i>)	3,030	
		4,690
<i>Cuttings:</i>		
North-west Poplar (<i>Populus</i>)	100	
		100
		86,960

Seedlings planted in seed beds at the Oliver Nursery during 1944:

White Spruce (<i>Picea glauca</i>)	8,460	
Sitka Spruce (<i>Picea sitchensis</i>)	5,500	
Lodgepole Pine (<i>Pinus murrayana</i>)	14,500	
Scotch Pine (<i>Pinus sylvestris</i>)	1,700	
Siberian Larch (<i>Larix sibirica</i>)	6,400	
		36,560

Fisheries and Game Administration

REPORT OF THE FISH AND GAME COMMISSIONER,

E. S. HUESTIS

The handling of fish and game in this Province, and in fact in any part of the world, is very closely related to the conservation of timber, the conservation of water and to the use of land for agricultural purposes. Before the coming of civilization into this Province, we are told that it contained streams well stocked with fish, lakes containing an abundance of fish which could be used for commercial purposes, an abundance of big game and a full stock of both migratory and upland birds.

As man came into the picture and proceeded to farm and ranch the scene changed. Where upland birds and ducks had had plenty of cover in the way of grass and shrubs and trees, these disappeared as more land was broken. In addition, many areas which contained water were drained so as to make farming land. Ducks in their annual migration back and forth found fewer water areas on which to nest and reproduce their young. Upland birds moved to other areas.

Agricultural areas expanded, the areas in which natural reproduction of game of all kinds had been going on were reduced until the crop supplied by natural means became smaller and smaller. In addition to this, the inroads of agriculture with the addition of towns and cities created a further hazard to our game and our fish as people proceeded to shoot and trap and fish, taking what they assumed to be their natural heritage. It was necessary, therefore, as civilization progressed to limit the time in which birds and animals and fish could be taken and the number to be taken each year, otherwise the demands of people and the crowding back of areas suitable for reproduction might have eventually completely destroyed the crops of birds, game and fish.

Artificial reproduction of fish and game and birds is not the solution to a problem of a diminishing supply. Artificial reproduction can do a small part, but only a small part in the increase in our stocks of wild life. A proper conservation programme carried out to bring back as far as possible the natural habitat of reproduction of our wild life will be a greater factor in bringing back the numbers of wild life to the maximum which can be obtained considering the area.

It is essential that every effort be made to conserve our water supply both in lakes and streams. The failure of water supply in streams cuts down the supply of fish in those streams. In the winter, streams freeze to the bottom suffocating fish, and in the spring the ice carries with it in flood all of that vital food which is required by fish living in the stream.

In areas where agriculture has destroyed the timber and shrubs, and in many cases the natural grasses, an effort will have to be made to put back the timber and shrubs and other cover which are a necessity for the natural reproduction of birds and animals. A farm which has no trees or shrubs or grass is a poor place for a human being to live, but it is also a place that neither birds nor animals will favour. In order that birds may nest and reproduce their kind they must have cover. This can only be supplied by restocking with trees and with shrubs, and it is suggested that in many cases benefit to both man and animal might be gained by the planting of hedges or hedgerows in place of the barb-wire fence which has become such a common sight in this country.

In the artificial restocking of streams and lakes with fish, it is essential that in each case we should know first whether fish can exist in such a stream or lake;



Grizzly Bear



Beaver House

second, the species which can best exist in such a stream or lake; and third, the quantity of fish which can exist, which is largely determined by the amount of feed available in the stream or lake. It is of little value to place fish in a stream which does not contain proper food or in a lake in which the water does not contain the necessary elements required for the maintenance of the fish population. It has, therefore, been necessary in restocking of lakes and streams to examine such streams and lakes to determine these governing factors before any action is taken for restocking. This stream and lake survey has been in effect for some years and is being extended gradually as conditions and personnel allow. When artificial restocking is undertaken at the present time we are sure that conditions exist in those bodies of water restocked which are beneficial to the maintenance of the fish placed therein.

The same condition exists in the artificial distribution of birds. It is found by study that certain species of birds are natural to certain types of country. It is essential in the restocking programme that careful study be made of each part of the country where birds are introduced, so that the bird in its new location will find agreeable conditions in which to exist and reproduce.

The handling of our wild life resources is, therefore, not a problem of interest only to sportsmen, but is a problem which should also be of interest to farmers, ranchers, people living in cities and towns, and to anyone interested in building up our stock of wild life. If we build up areas which are suitable for the reproduction of wild life, so shall we build up areas which will be a better place in which to live.

GAME BRANCH

Report of Game Superintendent, D. E. Forsland

It is with pleasure that I am able to record a continued progress during the year 1943-44 for the Game Branch, in spite of the fact that the quantity of some fur has seriously declined. During the year the financial returns to the trappers, fur farmers and others throughout the Province show a very favourable comparison with the previous year. As a whole, there has been a steady and gratifying increase in all wild life in the Province with a possible exception of certain fur bearers. The general public appears to be gradually awakening to the fact that game laws and game regulations are made for the protection of wild life in the Province, and to try as nearly as possible to preserve to posterity some of the wonderful hunting of big game and game birds which our present generation is enjoying. The Department has continued in its effort to obtain all co-operation possible from the various organizations who are interested in the protection of wild life, and particularly so with the Alberta Fish and Game Association.

During the previous year this Association was requested to appoint and did appoint four members from its Association who, together with two members from the University of Alberta staff and three members of the Provincial Fish and Game Department, constitute an Advisory Committee for the discussion of game conditions throughout the Province and for the drawing of new legislation and new game regulations, such as open and closed seasons, bag limits, etc. The existence of this Advisory Committee has been a great help to the officials of the Game Branch, particularly in suggestions as to open seasons, license fees, etc.

Due to the necessity for brevity, it is obvious that many items of interest pertaining to wild life resources must be rather short, and in order to give a clear picture of the activities of the Game Branch for the last year I wish to report under the following headings:

Migratory Game Birds.

There was a decided increase in all species of migratory birds during the year, and the fall shooting of ducks and geese was reported as very excellent. This large increase of migratory birds might perhaps be partly accounted for by the Government's restriction as to the sale of shotgun shells, although many confirmed migratory bird hunters carried over a certain amount of ammunition from previous years. The lack of ammunition, however, could not possibly account for the large increase of birds. Higher water levels throughout the Province and throughout the breeding grounds had a decided beneficial effect on the migratory bird situation, and in this connection credit must also be given to Ducks Unlimited who have, for some years past, expended considerable work and money in providing better breeding places and more safeguards against drought, thus reducing the great losses caused from the drying up of some of the lakes in Southern Alberta before the young ducks are able to seek other water. All indications are that the low ebb in migratory birds has passed, and that the Province can expect a steady increase in the migratory bird population from now on.

Any damage caused by ducks to farm crops, such as grain standing in stooks, is taken care of by the issuance of special permits before the opening of the regular open season.

Upland Birds.

There has been a decided decrease in the number of upland birds, particularly is this so in connection with the Ruffed Grouse and the Sharp-tail Grouse. It is quite apparent that these birds are on the down grade of the cycle, and it is expected that a scarcity of these birds will prevail throughout the coming season.

Hungarian Partridge appear to be holding their own, and although they do not show an increase over last year, it is expected that the Hungarian will be able to show an increase for the coming season.

The Ring-neck Pheasant has increased to an enormous extent, particularly is this the case in the Eastern Irrigation District. The increase in pheasants for the season 1943-44 has become of such magnitude that Brooks and district is now the main hunting ground for pheasants, not only for the hunters from the rest of the Province, but also from the adjoining Provinces of British Columbia and Saskatchewan. During the season a number of these birds were moved from the Brooks district to other parts of the Province and turned over to the various local Fish and Game Associations for release in local districts. It is hoped that this transfer of birds will be increased, and that the Province as a whole will eventually have a great uniform supply of this valuable game bird.

Big Game.

There has been a gradual increase in practically all big game with the possible exception of the Moose. Many districts of the Province reported a serious decrease in the Moose population, and many theories have been advanced in an effort to explain this decline in the Moose population. There is no doubt, however, but that Timber Wolves preying on the calf crop and younger animals account for a certain amount of this decrease. Another serious menace to the Moose population is the prevalence of the Moose tick, and many instances are known where animals have actually been killed from an over-infestation of this parasite.

However, the Elk show a decided increase, particularly is this the case in the Pincher Creek area where last year it was found necessary to add part of the Crowsnest Forest Reserve to the area open for the hunting of Elk. There is also a steady increase in the Elk population in the district on the Clearwater

Forest Reserve, lying between the North Saskatchewan River and the Clearwater River. This year the Elk area was extended by adding to the area that part of the Brazeau Forest Reserve lying between the Jasper Highway and the Canadian National Railway, running from Bickerdike to Mountain Park. In previous years the Coal Branch Railway constituted the westernmost boundary of the Elk area, but as stated above, it was found necessary to include all that portion of the Forest Reserve lying to the southeast of the Jasper Highway. The old Wolf Creek-Alder Flats Game Preserve was also included in the area where Elk may be hunted. Should the Elk continue to show a steady increase as recorded over the last few years, it may become necessary to add further territory to this Elk area.

The Antelope in the south of the Province have also shown a very gratifying increase in numbers, and particularly is this the case in the area west and north of Medicine Hat, having Suffield more or less as the center of this large Antelope district.

Sheep and Goat appear to be holding their own, and practically all American hunters, who hunted in Alberta during the fall of 1943, declared a full bag of Sheep and Goat.

Bears have become very numerous in the Province, particularly is this so in connection with the Black Bear. Bears have increased to such an extent as to become a menace to livestock, and numerous complaints have been received throughout the year from livestock owners, telling about the depredations made by Bears. As a consequence, it was found necessary to remove any and all protection from the Black and Brown Bear, and the Grizzly Bear is only protected within the limits of the Forest Reserves. At the present time Black and Brown Bear may be hunted throughout the Province without a license.

Alberta Fur Production.

This year saw a great decline and almost a disappearance of the Rabbits throughout the Province. This decline in Rabbits can be very closely associated with the fluctuations in the fur production. The disappearance of Rabbits usually means a decline in the Fox and Lynx population, and this year the number of pelts taken in the Province shows a decline of almost one million pelts as by comparison with the season 1942-43. The total number of pelts taken during the year now under survey being 1,513,927 as compared with 2,468,306 during the season 1942-43. However, this decline in fur production is accounted for almost entirely by the lower quantity of three classes of fur, namely, Squirrels, Rabbits and Ermine. Of these, the Squirrel take shows the greatest decline, being approximately 500,000 pelts less than last year. Ermine also shows a decline of some 40,000 pelts, with the Rabbit making up the remainder of the difference. Owing to the unusually high prices prevailing on all fur during this fur year, the net proceeds to the trappers and fur farmers of this Province, however, were almost as high as the returns for the previous year, the total value of fur production to the people of the Province of Alberta amounting to \$4,686,505.62. This, notwithstanding the decrease in the number of pelts taken by almost one million pelts. This large income to the people of the Province shows the great importance of the fur industry, placing the Province in second place amongst the Provinces in the value of its fur industry.

Beaver and Muskrat.

During the year now under review the Province produced 5,968 Beaver pelts, practically all of these pelts being taken on the registered trap-lines located north of Township 104 in the northern portion of the Province, registered trappers in that part of the Province being allowed to take, on their registered line, not more than five Beaver under each registration of trap-line certificate. In the southern

portion of the Province Beaver show a tremendous increase. It appears that the Beaver are making a great recovery all along the eastern slopes of the Rockies, and there is a certain amount of overflow of Beaver into the farming areas of the foothills district.

Where it is found that Beaver cause damage to private property, such as farm crops, hay fields or to public roads by flooding, the Department has endeavoured to remove the Beaver by Government trapping. In the past years this same situation was usually met by the issuance of Special Beaver Permits, allowing the farmer suffering the damage to remove the Beaver himself. Although the Department issued 103 of these Special Beaver Permits, the system of issuing permits is held down to a minimum, and whenever possible the policy of removing the Beaver and transplanting them in more suitable locations has been followed. All but 18 of these 103 permits were issued in the spring of 1943, at which time these permits were issued free of charge. Later on, during the fall of 1943, a fee of \$1.00 was charged for these permits, and during the fall, winter and spring of the season 1943-44 only 18 of these permits were issued. During the year under survey, 756 Beaver were taken by the various individuals claiming damage by Beaver.

Very much the same system of special permits is followed in the taking of Muskrats where these animals are found to cause damage. Quite often Muskrats will get into canals and ditches of irrigation projects, and by burrowing through dikes and dams can cause the irrigation company considerable loss. Permits have, therefore, been issued to the various irrigation projects in order to trap out any Muskrats which may cause damage. Farmers suffering damage to stock watering dams were also issued permits for the taking of Muskrats, and during the year 540 of these permits were issued, the greater number of such permits being issued to irrigation companies. In all, 19,843 Muskrats were taken under these special permits, and with the high price prevailing on Muskrat pelts throughout the year, this Muskrat catch in itself represents a considerable income to some of the farmers and trappers concerned.

In that part of the Province lying to the north of the North Saskatchewan River and subject to the regular open season for the trapping of Muskrats, reports indicate a sharp decline in the Muskrat population, and unless this condition is found to have been improved by next year, steps will have to be taken to protect the Muskrats throughout the northern part of the Province.

Registered Trap-lines.

The number of registered trap-lines taken out by the various professional trappers show a steady increase, and this is very gratifying because, no doubt, the registration of trapping areas throughout the Province will be one of the main means of saving and preserving our fur-bearing animals. From a small beginning the registration of trap-lines and trapping areas has now proceeded to where no less than 2,668 trappers have their trapping areas registered, and thus enjoy the sole trapping privileges over the area which most of them have trapped for a good many years. This sole trapping right will have a great influence in the trapper protecting and building up his trap-line in order to increase fur production. Particularly is this the case where the trapper has large areas of marsh land suitable for development into Muskrat trapping areas by the construction of small inexpensive dams—such dams are now being constructed by a number of trappers in order to improve their Muskrat trapping grounds.

Fur Farming.

During the year under review, a close co-operation was maintained at all times with the fur farming industry of the Province, the Alberta Fur Breeders' Association being contacted whenever any matter affecting the fur farmer

was under consideration by the Department. Undoubtedly the Province has at the present time as efficient and fair fur farming regulations as can possibly be constructed, and numerous fur farmers, having been asked their opinion as to our present Fur Farm Regulations, expressed the opinion that the regulations could not be improved upon.

During the year a system of recording the exportation of pelts from fur farmers was defined, whereby all exports were recorded on the back of the fur farmer's license, thus giving both the fur farmer and the Department a reliable and accurate record of all pelts produced and exported on fur farms. This arrangement of recording exports on the back of the fur farmer's license and doing away with the cumbersome forms requesting exemptions on fur farm raised animals, has resulted in not only the saving of stationery and printing costs, but also in the amount of clerical labour involved recording these exports. This change in issuing and recording exemptions on ranch raised pelts is one of the more important changes made for the convenience of fur farmers during the present year.

Although the statistics show a decided decrease in the number of animals contained on fur farms throughout the Province, the high prices prevailing throughout this year have increased the value of the animals to the fur farmer by approximately one million dollars. During the year 1942 the total value of all fur-bearing animals kept on fur farms amounted to \$2,018,030.85, whereas during the year 1943 the value of all fur-bearing animals kept on fur farms is represented by the large sum of \$3,242,824.50. Corresponding with this decrease of animals actually held on fur farms, the fur farmers of this Province only pelted approximately one-half of the number of animals this year as compared with the season 1942. The gross return to the fur farmers of this Province was up almost \$200,000, amounting to \$1,479,706.52. Thus the fur farming industry shows a very healthy existence, and as shown from the returns obtained from these fur farm operations, the industry is growing yearly with 1,094 fur farms now licensed.

In connection with the fur farming industry, mention must be made of the great assistance that the fur farmers of this Province have received from the Provincial Laboratory and the Provincial Pathologist, Dr. Walton. During the year numerous fur farmers forwarded sick animals to this Laboratory for examination by the Pathologist, in order to ascertain the cause of death; also animals have been forwarded from time to time for the purpose of producing serum for the protection against distemper.

Predatory Control.

As mentioned earlier in this report, Wolves undoubtedly take a very large toll, particularly of our big game, such as Deer and Moose calves, and throughout the year the Province has encouraged the destruction of Timber Wolves by paying a bounty in the amount of \$10.00 per Timber Wolf killed. This bounty was also paid on Wolf pups, irrespective of age, and during the period now under review the Province paid bounty on 695 Timber Wolves and 25 Cougars.

During the early part of the year numerous complaints were received by the Department from sheep ranchers and farmers raising sheep to the effect that the Coyotes had increased to such an extent as to constitute a very definite menace to the lamb crops, and in order to assist in the destruction of this predator an Order in Council was passed in September, authorizing the payment of a bounty on Coyotes. This bounty was shared by the municipality and the Province in that the municipality would pay the applicant the full amount of the bounty, to wit, \$5.00, and the Province would then reimburse the municipality at the rate

of \$2.00 per Coyote. In the local improvement districts the Province bore all the cost of the bounty. During the year under review, 4,554 Coyotes were taken under this arrangement, with a bounty being paid in the amount of \$20,223.00. The amount of Coyotes in the Province can be imagined when it is realized that this large number of Coyotes were taken during the summer and early fall and were, therefore, not part of the annual Coyote crop taken by the regular trappers during the winter. Practically all the pelts, with very few exceptions, were summer pelts, and worthless.

As stated earlier in the report, Bear and particularly the Black Bear, has developed into somewhat of a predatory animal, and during the year all restrictions on the hunting of this animal were removed.

During the year the Department also rendered financial assistance to the Alberta Fish and Game Association in their carrying out of a Crow and Magpie campaign for the destruction of these predatory birds, and great credit must be given to the Association for the amount of work and money expended by them in the eradication of these pests.

Game Preserves and Bird Sanctuaries.

The Province has for years had a number of Game Preserves, Bird Sanctuaries and restricted areas set aside for the preservation of wild life, and no hunting or carrying of firearms is allowed on these preserves. During the year the Province set aside three additional bird sanctuaries, namely, "Hall's Coulee," just east of the Town of Crossfield; "St. George's Island," in the Bow River, Calgary, and "Cygnet Lake," located approximately six miles west of Red Deer.

Enforcement.

As stated at the beginning of this report, it is gratifying to know that the general public has given the Department every assistance in the enforcement of The Game Act and its Regulations. For the year under review, there were 187 convictions for various infractions of The Game Act, as compared with 213 convictions the year before. These convictions were for numerous infractions, mostly of a minor nature, although some serious infractions were committed in the hunting of big game and also in the trading of fur by persons without being properly licensed.

The fur confiscated to the Crown during the year was sold by the Province on public auction and brought \$5,820.96. All rifles and ammunition are now turned over to the Attorney General's Department, to be included in their periodical sales of confiscated firearms. Traps and other articles which have a resale value are now sold by obtaining sealed bids, and disposed of to the highest bidder.

As in years past, the Royal Canadian Mounted Police play a very important part in the enforcement of The Game Act and its Regulations, and by far the greater number of investigations are, of course, handled by them. The Officer Commanding of "K" Division (Alberta) of the Royal Canadian Mounted Police should be especially mentioned here, having given this Department most wonderful co-operation in its work of enforcing The Game Act of this Province. This also applies to all the constables in the field who have shown a great interest in the enforcement of the Regulations.

In summing up, it is gratifying to note that the year 1943-44 has been one of abundance of most game. Big game is on the increase, migratory birds are more abundant than they have been for many years, and although the upland birds are at present in a low ebb, there is every reason to believe that another year will see a trend upward. The fur catch, with the exception of Muskrats and Squirrel, can be considered excellent, and although this Province can supply

many times the volume of fur than is at present taken, the returns to the trapper in this Province is this year the second high of all times, being only a few thousand dollars below the all record high of 1941-42.

CONVICTIONS UNDER THE GAME ACT

Period April 1, 1943 to March 31, 1944

Number of Convictions 187

CONFISCATED FURS

Amount realized from the sale of confiscated furs during period April 1, 1943 to March 31, 1944 \$ 5,820.96

TRAP-LINE REGISTRATIONS

(April 1, 1943 to March 31, 1944)

Registered trap-line certificates, 1,834 at \$10.00 each \$18,340.00
Registered trap-line certificates issued free to treaty Indians—834.

FUR DEALER'S LICENSES, ETC.

(April 1, 1943 to March 31, 1944)

Resident fur dealer's licenses in a city, and elsewhere than in a city—393 licenses ... \$4,915.00
Non-resident fur dealer's licenses to carry on business in province, 9 at \$100.00 each ... 900.00
Resident travelling fur purchasing agent's licenses, 54 at \$25.00 each \$1,350.00
Tanner's licenses, 3 at \$10.00 each 30.00
Furrier's licenses, 15 at \$10.00 each 150.00

GAME LICENCES

April 1st, 1943, to March 31st, 1944

	Number of Licenses	Fee	
Resident's Game Bird	9,673	\$ 2.00	\$ 19,346.00
Non-Resident's Bird (Canadian)	13	10.00	130.00
Non-Resident's Bird (Non-Canadian)	41	25.00	1,025.00
Resident's Big Game	7,957	3.00	23,871.00
Limited Trapper's	3,762	2.00	7,524.00
Guest Game Bird	7	5.00	35.00
Non-Resident's General Game	28	50.00	1,400.00
Permits to Collect	10	various	90.00
Taxidermist's	9	5.00	45.00
Resident's Special	52	5.00	260.00
Non-Resident's Special	22	50.00	1,100.00
Guide's	44	2.50	110.00
Cold Storage	18	5.00	90.00
Game Farm	7	various	11.00
Outfitter's	40	various	412.00
Resident's Special Antelope	370	5.00	1,850.00
Non-Resident's Antelope	19	15.00	285.00
Permits to Export	15	various	45.50
Fur Farmer's	1,094	various	4,675.00
Beaver Permits	18	1.00	18.00
Non-Resident's Big Game	38	100.00	3,800.00
Non-Resident's Spring Bear	4	10.00	40.00
			<u>\$ 68,162.50</u>

FUR TAX REVENUE

April 1st, 1943, to March 31st, 1944

Fur Tax \$83,204.26

MUSKRAT AND BEAVER PERMITS ISSUED, SEASON 1943-44

Muskrat permits issued 540
Muskrats reported taken 19,843
Beaver permits issued 103
Beaver reported taken 756

BOUNTY ON TIMBER WOLVES, COUGARS AND COYOTES

During the period April 1, 1943 to March 31, 1944, the following bounty was paid:

695 timber wolves at \$10.00 \$ 6,950.00
25 cougars at \$15.00 375.00Total \$ 7,325.003,705 coyotes at \$5.00 \$ 18,525.00
849 coyotes at \$2.00 1,698.00Total \$ 20,223.00

DEPARTMENT OF LANDS AND MINES

ALBERTA FUR PRODUCTION
Season July 1, 1943, to June 30, 1944

Kind	Total No. of Pelts	Average Value per pelt	Total Value of pelts
Badger	4,031	\$ 3.42	\$ 13,786.02
Bear	121	4.00	484.00
Beaver	5,968	34.61	206,552.48
Ermine	180,473	2.37	427,721.01
Fox (Other than Red)	27,888	20.00	557,760.00
Fox (Red)	31,645	14.62	462,649.90
Lynx	1,474	49.09	72,358.66
Marten	685	55.06	37,716.10
Mink	65,198	20.98	1,367,854.04
Muskrat	223,661	2.12	474,161.32
Otter	105	28.26	2,967.30
Rabbit	225,213	.08	18,017.04
Skunk	28,460	3.94	112,132.40
Squirrel	687,039	.60	412,223.40
Wolf (Coyote)	31,028	16.36	507,618.08
Wolf (Timber)	732	15.06	11,023.92
Wolverine	26	15.00	390.00
Fitch	155	1.50	232.50
Fisher	15	55.83	837.45
Wild Cats	10	2.00	20.00
	<u>1,513,927</u>		<u>\$4,686,505.62</u>

NUMBER OF ANIMALS DECLARED ON FUR FARMS IN ALBERTA ON
SEPTEMBER 1, 1943

Name	Quantity	Price	Total
Badger	2	\$ 4.50	\$ 9.00
Beaver	312	30.00	9,360.00
Fox, Silver	14,706	26.50	389,709.00
Fox, White Face Silver	6,744	38.50	259,644.00
Fox, Platinum	1,401	90.00	126,090.00
Fox, Cross	1,001	27.00	27,027.00
Fox, Blue	1,025	50.00	51,250.00
Fox, Red	141	22.00	3,102.00
Lynx	12	55.00	660.00
Marten	93	70.00	6,510.00
Mink, Standard	87,490	26.50	2,318,485.00
Mink, Silver-blue	10	200.00	2,000.00
Mink, Silver Sable	99	175.00	17,325.00
Chinchilla	69	100.00	6,900.00
Muskrat	6,283	3.00	18,849.00
Coyote	187	22.00	4,114.00
Fitch	173	2.00	346.00
Nutria	127	3.50	444.50
Rabbit	895	1.00	895.00
Raccoon	21	5.00	105.00
	<u>120,791</u>		<u>\$3,242,824.50</u>

NUMBER OF ANIMALS PELTED ON FUR FARMS IN ALBERTA AS PER
EXEMPTIONS ISSUED

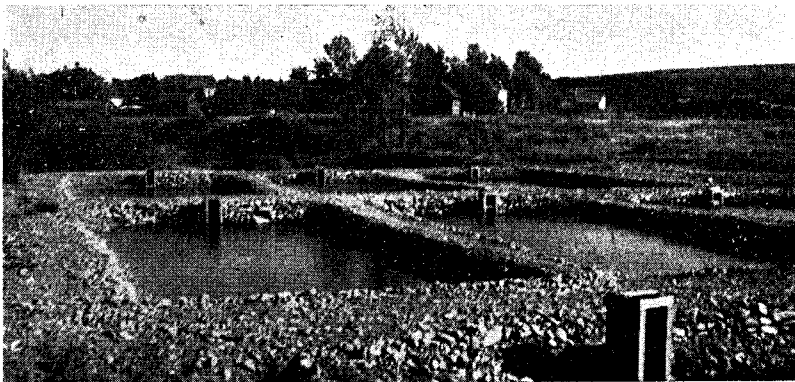
Name	Quantity	Price	Total
Fox, Silver	7,162	\$27.08	\$ 193,946.96
Fox, W. F. Silver	3,370	36.43	122,769.10
Fox, Platinum	15	80.09	1,201.35
Fox, Red	140	27.35	3,829.00
Fox, Cross	334	19.50	6,513.00
Fox, Blue	66	20.18	1,331.88
Lynx	6	49.10	294.60
Chinchillas	5	15.50	77.50
Fitch	154	1.25	192.50
Marten	29	55.06	1,596.74
Mink	49,801	22.98	1,144,426.98
Coyote	142	16.36	2,323.12
Muskrat	242	2.12	513.04
Beaver	15	34.61	519.15
Rabbit	203	.60	121.80
Nutria	18	2.50	45.00
Raccoon	2	2.40	4.80
	<u>61,704</u>		<u>\$1,479,706.52</u>

NUMBER OF ANIMALS RETAINED FOR BREEDERS ON FUR FARMS IN ALBERTA
FOR 1944 BREEDING SEASONS

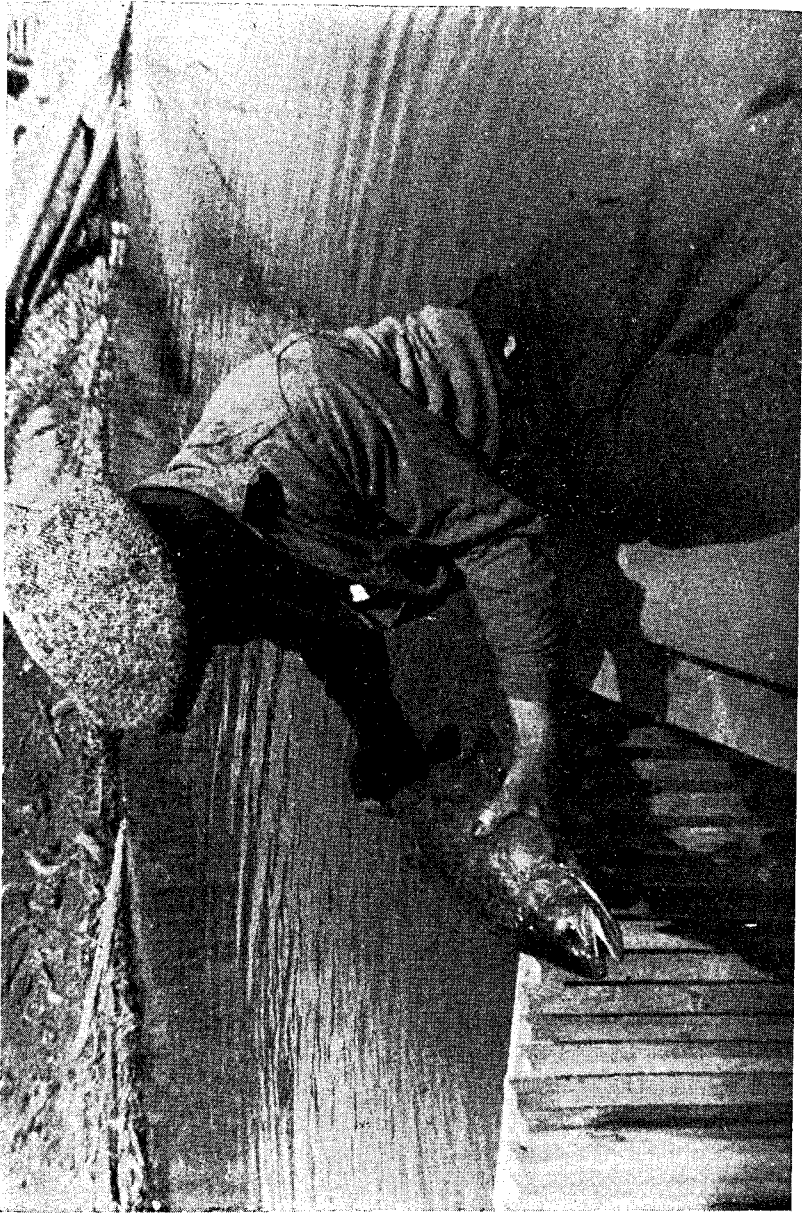
Name	Quantity	Price	Total
Badger	2	\$ 5.65	\$ 11.30
Beaver	297	37.50	11,137.50
Fox, Silver	7,544	33.12	249,857.28
Fox, White Face Silver	3,374	48.35	163,132.90
Fox, Platinum	1,386	114.00	158,004.00
Fox, Cross	861	33.75	29,058.75
Fox, Blue	691	63.51	43,885.41
Fox, Red	75	27.50	2,062.50
Lynx	6	68.75	412.50
Marten	64	87.50	5,600.00
Mink	37,798	33.12	1,251,869.76
Chinchilla	64	125.00	8,000.00
Muskrat	6,041	3.75	22,653.75
Coyote	45	27.50	1,237.50
Fitch	19	2.50	47.50
Nutria	109	4.38	477.42
Rabbit	692	1.25	865.00
Raccoon	19	6.25	118.75
	<u>59,087</u>		<u>\$1,948,431.82</u>

LICENSED ALBERTA FUR FARMERS, SEASON 1943-44

Fox Farms	213	Muskrat and Beaver	33
Mink	750	Raccoon	2
Fitch	1		
Nutria	8	Number of Licensed Fur Farmers	1,094
Fox and Mink	87		



Fish Rearing Ponds at Pincher Creek



Fish for Spawning, Kananaskis Lakes

FISHERIES BRANCH

Report of Fisheries Superintendent, H. B. Watkins

A review of the fiscal year ending March 31st, 1944, discloses a more prosperous situation for the commercial fishermen than has been evidenced for many years. The export demand was exceptionally good with prices higher than the average. During the late summer maximum price regulations issued by the O.P.A. governing the sale of fish from the Prairie Provinces to the United States markets were put into effect and resulted in higher prices being paid to fishermen during the balance of the year. One important factor making the demand for fish strong and steady throughout the greater part of the year was the strike of the trawler fleet along the U.S. Atlantic seaboard. Markets being short of fish at this time, it was possible to export suckers to Chicago, Ill., and the suckers suitable for this trade brought six cents per pound to the fishermen. As might be expected during periods when the market will readily absorb the total production, there was a laxity among operators in candling whitefish, a practice which heretofore has recommended itself to the U.S. Food and Drug Administration.

The problem of fish infestation is rapidly coming to a head, and the unfavourable publicity given to Canadian fresh water fish in the press will, unless remedial measures are taken, cause a substantial reduction in the consumption of this product. The responsibility for correcting this situation is not for the Provincial administrations alone, but rests with the Dominion authorities as well. Discussions with the administrations directly concerned have taken place during the year, and it is expected that the necessary machinery will shortly be set up to control and prohibit the marketing of fish below an approved quality.

The catch of commercial fish during the period under review exhibits a total catch of 7,757,521 pounds, an increase of 1,598,638 pounds over the previous year. The value of the year's catch to fishermen was \$481,498.25, an increase of \$195,314.65, and the value as marketed was \$973,777.86, an increase of \$365,808.54. Production of all species of fish increased to a considerable extent over the previous year as indicated by the following comparative figures:

	1942-43	1943-44	Increase
	lbs.	lbs.	lbs.
Whitefish	1,916,496	2,374,532	458,036
Trout (Lake)	18,556	21,716	3,160
Pike	504,674	585,519	80,845
Pickeral	254,337	840,164	585,827
Perch	75,816	128,628	52,812
Tullibee	3,324,864	3,596,665	271,801
Mixed Fish	64,140	210,297	146,157
	<u>6,158,883</u>	<u>7,757,521</u>	<u>598,638</u>

Owing to wartime restrictions, purchases of new equipment was less than in former years, but an ample supply of netting was available, due to the foresight of the larger operators who are now well stocked for some time to come.

NUMBER AND VALUE OF VESSELS, BOATS, FISHING GEAR AND EQUIPMENT
IN USE 1943-44

Vessels, Boats:	Number	Value
Row	186	\$ 3,420.00
Gasoline	208	86,380.00
Diesel	1	5,900.00
Barges	3	16,000.00
		<u>\$111,700.00</u>
Piers and Wharves	9	\$ 4,474.00
Fish Plants and Ice Houses	33	20,197.00
Gill-nets:		
May 16, 1943, to Sept. 30, 1943	4,697	93,940.00
December 1, 1943 to December 31, 1943	3,665	64,970.00
January 1, 1944, to March 31, 1944	8,806	157,532.00

Mink farmers utilized approximately three and one-half million pounds of the less desirable and poorer quality fish, and no wastage of fish occurred through spoilage or lack of markets. The supply of fish for food for ranch raised mink was adequate for the year, although in some districts where the mink farmer depends almost entirely on fish for his mink food, lack of storage facilities and proper equipment and gear caused temporary difficulties.

Lake Athabasca.—After a lapse of many years commercial activities were resumed on the Alberta side of Lake Athabasca, and this initial effort, although starting late in the season, brought to the market 181,356 lbs. of pickerel, 20,630 lbs. whitefish, and 8,160 lbs. pike. The eastern part of Lake Athabasca is not suited to a large whitefish population owing to the shallowness of the water, but, on the other hand, it undoubtedly has extensive pickerel and pike grounds. It is anticipated that the coming years will see a marked increase in production from the eastern areas of this lake.

Cold Lake.—This interprovincial lake upheld its reputation as a producer during the winter season, and out of the total limitation of 325,000 lbs. of fish permitted to be taken, Alberta fishermen caught 238,085 lbs., and received an average price of 16c per lb. for both whitefish and trout.

Pigeon Lake.—A marked improvement in the size of Pigeon Lake whitefish was noticeable throughout the year, likewise a much heavier production was recorded, totalling 448,440 lbs. The winter catch accounted for 408,440 lbs. of whitefish, netting the fishermen 16½c per lb. Due to unsafe ice conditions, the lake did not open until January 15th, at which time 826 licenses were issued. Catches were unexpectedly heavy, and three days later, the limit having been overtaken, the lake was closed. Fortunately, the export market was able to absorb the heavy catch due to unusual conditions then prevailing. It is reported that 25 carloads of fish were shipped to U.S. markets from Alberta during the seven days following January 15th, this being abnormal and in other years would have caused a glut on the market with large quantities placed in cold storage and considerable loss to the trade.

Wabamun Lake.—After being closed two seasons, Lake Wabamun re-opened for the winter season, yielding 106,000 lbs. of whitefish at a price of 16c. lb. to the fishermen. Examination of the winter's whitefish catch disclosed that approximately 80% were four and five year olds, averaging in weight two pounds, and sufficiently mature to stand shipping.

Lac La Biche.—The summer fishing period was not a particularly heavy one except for the tullibee catch of 924,866 lbs., the whitefish take being only 77,494 lbs. and pickerel 47,870 lbs. During December, 130,759 lbs. of tullibee and 13,367 lbs. of pike, pickerel and suckers were caught, and for the balance of the season ending March 31st the catch consisted of 80,859 lbs. of tullibee and 22,691 lbs. of pike and pickerel.

Lesser Slave Lake.—Landings from Lesser Slave Lake during the summer were satisfactory, and included 1,512,726 lbs. tullibee, 349,574 lbs. pickerel, 205,200 lbs. whitefish, and 64,292 lbs. pike, perch and suckers. The pickerel take was the heaviest in years and whitefish declined, possibly due to less fishing effort for this specie of fish. December returns show 108,526 lbs. tullibee, 4,573 lbs. pickerel, 8,389 lbs. whitefish and 4,478 lbs. of coarse fish. January to March season produced 470,429 lbs. tullibee, 55,781 lbs. pickerel, 24,824 lbs. whitefish, and 28, 271 lbs. coarse fish.

The tullibee production from both Lac La Biche and Lesser Slave Lake is the main supply of fish food to fur farmers locally and in distant parts of the Province.

FISH AND GAME ADMINISTRATION

87

TOTAL AMOUNT OF FISH TAKEN FOR COMMERCIAL PURPOSES

Species	Period	Weight (lbs.)	Value to Fishermen	Value as Marketed
Whitfish	May 16/43 to Sept. 30/43	569,180	\$ 60,437.50	\$130,911.40
	Dec. 1/43 to Dec. 31/43	299,817	33,677.53	39,476.81
	Jan. 1/44 to Mar. 31/44	1,505,535	219,234.26	401,025.04
			2,374,532	\$313,349.29
Trout (Lake)	May 16/43 to Sept. 30/43	Nil	Nil	Nil
	Dec. 1/43 to Dec. 31/43	Nil	Nil	Nil
	Jan. 1/44 to Mar. 31/44	21,716	\$ 3,474.56	5,646.16
Pickerel	May 16/43 to Sept. 30/43	637,555	\$ 33,452.42	\$ 98,135.20
	Dec. 1/43 to Dec. 31/43	45,412	4,471.09	7,424.50
	Jan. 1/44 to Mar. 31/44	157,197	17,195.11	37,555.66
			840,164	55,118.62
Pike	May 16/43 to Sept. 30/43	198,325	\$ 7,089.62	\$ 19,632.50
	Dec. 1/43 to Dec. 31/43	69,215	3,441.22	6,462.85
	Jan. 1/44 to Mar. 31/44	317,981	15,998.27	32,154.02
			585,519	26,529.11
Tullibee	May 16/43 to Sept. 30/43	2,641,734	\$ 41,232.14	\$ 95,983.77
	Dec. 1/43 to Dec. 31/43	274,750	7,150.59	13,871.60
	Jan. 1/44 to Mar. 31/44	680,181	20,329.44	36,128.60
			3,596,665	68,712.17
Perch	May 16/43 to Sept. 30/43	41,256	\$ 2,831.79	\$ 6,188.40
	Dec. 1/43 to Dec. 31/43	15,113	730.66	1,462.77
	Jan. 1/44 to Mar. 31/44	72,259	7,199.76	14,928.72
			128,638	10,752.21
Mixed Fish, Ling, Suckers	May 16/43 to Sept. 30/43	82,595	\$ 1,772.54	\$ 3,545.08
	Dec. 1/43 to Dec. 31/43	39,851	665.31	1,181.74
	Jan. 1/44 to Mar. 31/44	87,851	1,126.44	2,065.04
			210,297	3,562.29
	Totals		7,757,521	\$481,498.25
				\$973,777.86

Calling Lake.—This winter producer maintained its usual steady supply totalling 270,750 lbs. of all species; of which 68,800 lbs. pickerel and 94,800 lbs. whitefish found a ready market, the balance being coarse fish and source of fur farm food supply.

Irrigation reservoirs in the southern part of the Province made an excellent showing during the winter season, Lake McGregor producing 104,500 lbs. whitefish and 12,300 lbs. pike, with Lake Newell shipping 210,000 lbs. whitefish and 6,200 lbs. pike.

Commercial production on the lakes of lesser importance was very satisfactory throughout all seasons of the year, and most lakes have promise of being in good condition for the year to come.

Licenses and Permits.—An increase is shown for all licenses sold during the year under review. Angling permits increased by 516 over the previous year, domestic licenses by 205, motor boat licenses by 1, fisherman's licenses totalled 2,868, an increase of 82%, with commercial licenses at 124, being 61% higher than the number sold last year.

	1942-43	1943-44	Increase
Angling Permits (Seasonal)	5,537	5,920	383
Angling Permits (Limited)	327	460	133
Domestic Licenses	317	522	205
Fisherman's Licenses	1,571	2,868	1,297
Commercial Licenses	77	124	47
Motor Boat Licenses	3	4	1
	<u>7,832</u>	<u>9,898</u>	<u>2,066</u>

Observance of the Regulations.—Prosecutions for the period under review numbered 69, an increase of 36, and confiscations numbered 59, an increase of 28, from the previous year's totals. The Fisheries Service acknowledges the assistance rendered by the Royal Canadian Mounted Police and Forestry personnel, without whose co-operation supervision of fishing activities would have been inadequate.

Examination of Lakes and Streams.—Continuing last year's programme, biological surveys of certain waters were undertaken by Dr. R. B. Miller, of the University of Alberta, assisted by Fisheries personnel. These reports are too lengthy to be included in this review, and the following is a short summary of the findings and observations:

Ghost River Reservoir.—Ghost Lake was visited in July, and during this time the fish population was sampled with gill-nets and physical and chemical, planktonic and bottom fauna observations were made. The observations are essentially the same as those made by Dr. Rawson in August and September, 1938, but there was not as great a pH difference from surface to bottom as reported by Rawson. A net haul from bottom to surface at 65 feet revealed a very limited fauna. The volume of this haul was 0.2 cc. Dr. Rawson's sample was 0.3 cc., and he mentioned a brown sediment contaminating some of his samples. The same sediment occurred this year, and it may be concluded that currents in the reservoir keep a certain amount of fine silt in suspension all the time.

The plankton amounts to 1.46 cc. per cubic metre—a very meagre amount. The bottom fauna is poor; the average quantity is only 0.28 cc. per square foot; and the average of 986 animals per square yard is slightly, though probably not significantly, less than Dr. Rawson's 1,380 per square yard.

Gill-net setting caught the following fish: 1 ling, 221 northern suckers, 25 common suckers, 1 Rocky Mountain whitefish, 3 Dolly Varden, 2 Rainbow trout.

This is much the same as that reported by Dr. Rawson. The northern suckers are very well grown and have evidently had access to plenty of food. The northern sucker is a river fish, and it seems likely that they spend a good part of their lives in the Bow or Ghost River.

The meagre plankton and poor bottom fauna show the Ghost River Reservoir to be very low in productivity. The wide seasonal fluctuation in water level is probably at least partly responsible for this condition. Repeated, prolonged exposure of the bottom appears to have delayed its conversion into productive mud; it remains hard with much undecomposed material. The deposition of fine silt in the deeper parts of the reservoir possibly interferes with bottom productivity at depths which are not exposed when the water level is lowered. All this, combined with the constant low temperature of the water means that any change for the better will be very slow in coming, if at all.

Gadsby Pond.—This pond, formed by a railroad dam on a small stream, has an area of three or four acres. The water in the inlet to the pond was not flowing at the time of examination, and a very small trickle of water was seeping through the dam, leaving a small stream about a foot wide and two inches deep. There was a heavy growth of aquatic plants over most of the pond, which accounted for the high oxygen content (10.0 ppm) of the surface water. Exclusive of fish, the following animals were found: leeches, *Estheria* (shelled fairy shrimp), *Gammarus* (scud), and *Notonectidae* (back swimmers). These animals are typical of ponds of a temporary nature, i.e., which either dry up or winter kill through deep freezing. The only fish present was the fathead minnow which was also seen in the creek, and which probably comes into the pond each spring. It seems obvious that this pond is unsuitable for fish. The nature of the organisms found in it suggests that it supports only a summer population.

Baptiste Lake.—Baptiste Lake has an area of approximately eight square miles and a maximum depth of 90 feet. It consists of a north arm, which is shallow, and a south arm which is much deeper. There is one outlet which flows all summer, and three inlets were found with flowing water. The south end of the lake undergoes summer stagnation of a severe kind, the oxygen below thirty feet being reduced to limits below the toleration of fishes. The high temperature of the surface water combined with the low oxygen of the deep water have probably been responsible for the observed death of tullibee in some summers.

The low oxygen content has resulted in a very poor deep water bottom fauna; this probably explains the scarcity of suckers which live on the deep water bottom organisms. The rarity of ling is also probably due to the unfavourable conditions in the deep water. The plankton, though not abundant, is adequate to support a large and well-grown population of tullibee. These fish are evidently very abundant and they could stand heavy fishing, as the present catch is all of old fish. Perch are well-grown and abundant; pickerel are evidently not always plentiful in the lake. It is well known that pickerel leave lakes on spawning migrations in the spring and it is often late in the summer before they return. The failure to find young pickerel suggests they leave the lake to spawn. It is likely that the number of pickerel is quite independent of the degree of fishing, either commercial or sport, but depends on migrations to and from the Athabasca River. It is believed that commercial fishing with 4 or 4½ inch mesh nets will in no way interfere with the supply of fish for anglers; on the contrary, a reduction in the large population of tullibee could only make room for larger numbers of more desirable fish.

Jamieson (Johnson) Lake.—This reservoir, which is about two miles from Brooks, was revisited during the year. Temperature, oxygen and pH were determined at the surface and 15 feet (the deepest water found). The water becomes warmed throughout; oxygen is plentiful, though reduced somewhat at the bottom by decomposition of organic material. Seine hauls revealed an abundance of small fishes—the five spined stickleback, the spot tailed minnow and the fathead minnow. Noteworthy is the absence of sucker fry or fingerlings, which almost invariably turn up in seine hauls if they are present.

The reservoir is warm, well oxygenated, rich in food, and has an abundant supply of forage fishes. The warm water, coupled with the yearly water bloom rule out trout as suitable fish, and pickerel appear to be the only possibility for this reservoir.

Whitewood Lake.—The greatest depth found was 16 feet, and most of the lake is 10 feet or less deep. Temperatures at the surface and at 10 feet were 66° and 62°F. respectively. Oxygen at 10 feet was 4.8 cc/litre. This lake evidently does not undergo summer stagnation. The pH at the surface was 7.4. Dredgings at 10 feet indicate a rather poor fauna, the quantity being 0.8 cc/sq.ft. A heavy water bloom was in progress at the time of examination. This involved the alga Nostoc, which takes the form of many small green spheres suspended in the water, and clearly visible to the naked eye. The total quantity of plankters found was 125 cc. per cubic metre, due almost entirely to the alga Nostoc. Perch and jackfish (pike) would probably do well in this lake; winter killing would likely only occur at fairly long intervals.

Lake Eden.—Oxygen, temperature and pH determinations were taken during August, and disclosed that there is no marked thermal stratification, but a pronounced decrease in bottom oxygen. In the absence of stratification this is perhaps due to decomposition of bottom deposits. Dredgings amounted to 2.00 cc/sq.ft. at 20 feet and 0.6 cc/sq.ft. at 39 feet. This is a rather poor fauna, probably caused by the lack of oxygen in deep water. Plankton haul at 30 feet caught 18 cc. per cubic metre, a remarkable amount considering scarcity of the algae. Almost the whole quantity was made up of Daphnia and Ceriodaphnia.

Lake Newell.—At the time of examination (August) the lake stood 7½ feet below its normal level and the deepest water found was only 23 feet. Temperature, oxygen and pH were as follows: Surface, 68F. 0, 9.16 ppm., pH 8.2; 23 feet, 66 F. 0, 9.74 ppm., pH 8.1. The average bottom fauna amounts to only 0.7 cc. per square foot, a rather meagre amount. The presence of razor-back whitefish a few years ago is no doubt due to this poor food supply. Possibly the fish are less numerous now and the food present is sufficient; the southern end of the lake may be richer in bottom organisms. The plankton is rich and varied. The total amounts to 27.8 cc. per square metre, which, in the absence of a water bloom, is a large amount. This plankton is at least occasionally utilized by adult whitefish, as several have been examined whose stomachs were filled with Daphnia longispina. The condition factor for Newell fish is much below that for Wabamun and Lac Ste. Anne (1.7 compared to close to 2). This is undoubtedly due to the poor food condition in Lake Newell; the fish seem to grow rapidly in length but remain thinner than fish of the same lengths in richer lakes.

Pond at Sugar Refinery, Raymond.—The pond has an area of 94 acres and, when full, a depth of 16 feet or better over a good part of its area. Surface temperature (August 3rd) was 66°F. around the shores and 62°F. at the outlet where the water was flowing. According to factory records, the pH varies from 7.6 to 8.4. The pond is kept fairly cool all summer by a constant flow of water, and is kept dirty with silt carried in or with mud stirred up. The bottom is a yellow clay and has a heavy growth of aquatic plants. The pond is kept fairly full until October, is drawn down during the winter, and factory officials suggest that at best four to six feet of water would be all that is left after winter operations. It seems very probable that pike which used to be in the pond have been winter-killed due to too much water having been removed. The ice cover shuts the pond off from air, and the shallow water does not hold enough oxygen to keep fish alive all winter.

Macleod River drainage.—Lobstick River, Carrot Creek, Wolf Creek and Big Sundance Creek were visited during the summer. Rainy weather interfered considerably with the investigation.

Lobstick River.—This was examined first at the bridge on the highway. Here the flow is fast, there are no deep holes and there is little cover. A bottom sample yielded nothing but oligochaetes, and these to the extent of only 0.2 cc. per square foot. The temperature was 52°F., oxygen 5.9 cc. per litre, and the pH 8.2. The second point of examination was one mile west and one mile north of Evansburg. Here the rate of flow is about 9 inches per second; the bottom is rocky with several deep holes and ledges. The stream is 25 to 35 feet wide at this point. Examination of the rocks showed that some insect life was present.

Carrot Creek.—This creek was examined around the highway bridge. Here it is 25 feet wide, 4 to 5 feet deep and has a slow rate of flow and a mucky bottom. Bottom samples yielded small chironomid larvae of negligible volume. Temperature was 56°F., oxygen 5.8 cc. per litre, and pH 8.2.

Wolf Creek.—This stream was examined below the highway bridge, where it is about 35 feet wide with a rapid flow, deep pools and a rocky bottom. At such a favourable point it is to be expected that insect food would be abundant, but a bottom sample yielded no life of any kind. The only insects found were terrestrial forms which were floating on the surface. Temperature was 55°F., oxygen 5.7 cc. per litre, and pH 8.0.

Big Sundance Creek.—At the point visited the stream was flowing about 8 inches per second. The bottom was sandy with a few rocks and patches of weeds. Deep pools and cover were present. Numerous insects were seen, but the samples were subsequently lost. Temperature was 57°F., oxygen 5.7 cc. per litre, and pH 8.2.

Obed Lake.—Numerous forage fish were seen and these brought back for examination were *Margariscus margarita nachtriebi*, the northern pearl dace. This is a very colourful little fish, and is mistaken by local people for young rainbow trout. It is a good forage fish and is evidently abundant. Suckers and rainbow trout are present in the lake, and trout from 2 to 4½ pounds are taken by anglers. The fact that trout make a good growth in the lake and not in the streams (same water) would suggest that it is the poorness of the food supply in the streams which is responsible. pH of the surface waters of Obed Lake is 8.6.

The brief examinations made suggest that the explanation of the poor results obtained in planting the Macleod drainage is because of the poor supply of natural trout food. This poor supply is perhaps due to the formation of anchor ice in the winter, which scours the bottom and prevents desirable insects, such as caddis flies and mayflies, from becoming established.

A thorough survey of this drainage seems advisable with a view to planning improvement measures.

Angling.—Improvement in trout fishing generally throughout the Province was evidenced during the season and provided the major sport for anglers. In the Waterton River sector very good sport was had from July to the end of the season; fish were plentiful, very noticeably so in Cottonwood and Lees Creeks. For the first few weeks of the season the larger streams were subject to high water and consequently were cloudy or muddy and not attractive to anglers. Waterton River from midsummer on gave satisfactory creel returns, and towards the end of the season saw large numbers of Rocky Mountain whitefish.

The Pincher Creek-Crowsnest district was worked over energetically all season, with good fishing reported on all creeks and rivers, and the finest Rocky

Mountain whitefish take for the past fifteen years. Notwithstanding favourable angling returns, the water became very low in many streams outside the Forest Reserve, particularly so in Pincher, Cow, Bob, Ernst, Callum, Connelly, Mill and Byron Creeks. Other creeks such as Glacier, Gold, Todd, Beaver and Beaver Mines did not suffer to a like extent, but on Beaver Mines Creek the water disappeared for over a mile under the gravel to reappear downstream. Customary rescue work was undertaken and many trout stranded or locked in shallow pools were transferred to flowing water. Beauvois Lake provided two to four pound rainbow this season, and the number of trout taken from this body of water increases from season to season. The Old Man and Livingstone Rivers amply repaid anglers visiting their watershed, and numerous large cutthroat are reported as well as some very fine rainbow.

Willow Creek district proved itself quite satisfactory, and although the catch on this watershed runs mostly to fairly small fish the numbers taken compensate the anglers for his effort. This watercourse suffers periodically from drought, and this summer proved no exception. The month of August occasioned the greatest anxiety, at which time the north and south branches of Willow Creek dried up for considerable distances. Uncounted numbers of trout were rescued, and for some time it was feared disaster faced the trout population. However, providential rains towards the end of the month relieved the situation and Willow Creek went into the winter months in a fair condition.

The Highwood River and tributaries upheld their reputation in spite of the daily concentrated fishing effort to which they are subjected. The Highwood is probably one of our heaviest fished streams in the number of anglers frequenting its course, and this summer records the stream as providing good fishing up until the end of September. Sheep River, Pekisko Creek and High River reputedly afforded anglers excellent creels, and a number of exceptionally large Dolly Varden trout were caught in the south fork of Sheep River. Water levels along the Highwood watershed were unusually low in the fall, and very little improvement, if any, was noticeable during the winter months.

The Bow and Elbow Rivers proved satisfactory from the anglers' viewpoint, and as usual a number of very fine specimens were taken from the Bow River. Ghost River and Reservoir continue to be poor, and will probably be so until stream improvement measures are taken on the river to provide adequate cover, pools, and deflectors and the natural food supply materially increases. The Kananaskis River was fair, and the Upper and Lower Kananaskis Lakes produced large trout up to nine pounds when the weather and water were favourable.

Loch Leven waters are becoming increasingly popular, and the Dog Pound, Raven Rivers, the Red Deer River and tributaries saw very satisfactory fishing. Along with Loch Leven, many Eastern brook trout and Rocky Mountain whitefish were also obtained, and this watershed as well as the Clearwater River show great improvement over the past few years.

Macleod and Athabasca Rivers were fair with occasional good fishing. The tributary streams do not support a large trout population owing to deficiency of feed and anchor ice conditions in the winter.

Pike, pickerel and perch fishing in lakes and streams was very good, except in a few small lakes where losses of fish occurred last winter. Summer resort lakes were well patronized by angling parties, and particularly good returns were obtained on Lac Ste. Anne, Wabamun, Chestermere, Jackfish and Buck Lakes.

Lesser Slave Lake Hatchery.—Preparatory work at the whitefish spawning camp on Utikuma Lake commenced during the first week of October, the necessary help engaged and traps and retainers installed in readiness for collection

of eggs. The first collection of eggs arrived at the hatchery on November 6th, and as soon as sufficient numbers were taken to meet the proposed distribution schedule for the season, the spawning camp was closed. Additional help at the hatchery was required during November on account of dirty water being pumped from the lake, this being due to the open fall and late freeze-up of the lake.

The following distributions of whitefish eggs were made during the season:

Water	Eyed whitefish eggs
Battle Lake	1,000,000
Beaver Lake	4,500,000
Buck Lake (65-17-4)	2,500,000
Buck Lake (46-6-5)	1,000,000
Boyne Lake	1,000,000
Calling Lake	4,000,000
Christina Lake	2,000,000
Cold Lake	5,000,000
Ethel Lake	1,000,000
Elinor Lake	1,000,000
Fickle Lake	1,000,000
Gregoire Lake	1,000,000
Lac La Biche	4,000,000
Lac Ste. Anne	2,000,000
Lawrence Lake	2,000,000
Mosquito Lake	2,000,000
Moose Lake	1,000,000
Muriel Lake	1,000,000
Pinehurst Lake	2,000,000
Pigeon Lake	4,000,000
Saddle Lake	2,000,000
Touchwood Lake	2,000,000
Wabamun Lake	4,000,000
Winnifred Lake	2,000,000
Whitefish River (fertilized eggs)	20,000,000
	<hr/>
	73,000,000

Calgary Hatchery.—Operations at the Calgary Hatchery throughout the year were of maximum capacity and distributions therefrom were made with minimum losses. The new addition to the hatchery, constructed by Mr. James Cross of the Calgary Brewing and Malting Company Limited, has proven of immense value to the Fisheries Branch, and the material interest evidenced by Mr. Cross in propagation of game fish is appreciated in no small degree by both the sporting public and Fisheries personnel.

A number of rearing ponds were in use during the year, some of which sponsored by local associations, made a very creditable showing in the number of trout released. Trout rearing ponds in use as at March 31st, 1943, were located as follows: Lees Creek, sponsored by Cardston Rod and Gun Club; Trout Creek, maintained by Claresholm Fish and Game Association; Sulphur Creek, under the direction of Mountain Park Fish and Game Association; and the following were maintained by this Division: Macleod, Raven, Inglewood, Calgary.

Spawning activities at Cold Lake were again carried on, and although transportation difficulties taxed the ingenuity of the officers in charge, a total of 455,000 lake trout fingerlings and eggs were distributed during the year.

DISTRIBUTION OF RAINBOW TROUT, 1943

	Yearlings	No. 3 Fing.	No. 4 Fing.
Tributary to Macleod River:			
Carrot Creek	10,000	.....
Wolf Creek	20,000	.....
Sundance Creek	5,000	.....
Hornback Creek	5,000	.....
Thornton Creek	5,000	.....
One Mile Creek	5,000	.....
Macleod R. (Mountain Park)	10,000	.....
Macleod R. (Cadomin)	5,000	.....
Sulphur Creek	5,000	.....
Upper Macleod River	20,000	.....
Sulphur Creek dams	35,000	.....

DEPARTMENT OF LANDS AND MINES

	Yearlings	No. 3 Fing.	No. 4 Fing.
Tributary to Bow River:			
Pekisko Creek	3,000	.....	.....
Sheep River	3,700	.....	.....
Jumping Pound Creek	3,800	.....	.....
Prairie Creek	2,500	.....	.....
Elbow River	1,000	.....	.....
Maclean Creek	500	.....	.....
High River	6,000	.....	.....
Sheep River .....	.....	.....	40,000
Bow River and lagoons .....	.....	.....	160,000
Elbow River .....	.....	.....	50,000
Kananaskis River .....	.....	.....	40,000
Tributary to Willow Creek:			
Burton Creek	3,000	.....	.....
Patterson Creek	3,000	.....	.....
Honey Coulee	6,000	.....	.....
Trout Creek	5,000	.....	.....
Lyndon Creek	15,000	.....	.....
Big Jim Creek .....	.....	.....	2,500
North Fork .....	.....	.....	27,000
South Fork .....	.....	.....	8,000
Nelson Creek .....	.....	.....	2,000
Ruby Creek .....	.....	.....	500
Tributary to Old Man River:			
Castle River	3,000	.....	.....
Old Man River	4,800	.....	.....
Todd Creek	1,800	.....	.....
Pincher Creek	2,300	.....	.....
Beaver Creek	1,000	.....	.....
Beaver Mines Creek	1,200	.....	.....
Mill Creek	800	.....	.....
Cyr Creek	200	.....	.....
Ernst Creek	500	.....	.....
Fly Creek	500	.....	.....
Racehorse Creek	1,200	.....	.....
Crowsnest River	9,000	.....	.....
Camp Creek	500	.....	.....
North Fork	6,000	.....	.....
Yarrow Creek dams	3,000	.....	.....
Pine Creek	2,000	.....	.....
Yarrow Creek	2,000	.....	.....
Tributary to Waterton River:			
Tough Creek	8,000	.....	.....
Lees Creek	9,500	.....	.....
Cypress Hills:			
Battle Creek .....	.....	.....	6,000
Grayburn Creek .....	.....	.....	6,000
Burmis Lake	500	.....	.....
Beavois Lake	800	.....	.....
Phyllis Lake	2,000	.....	.....
	112,100	125,000	342,000

DISTRIBUTION OF LAKE TROUT

	No. 5 Fing.	Eyed and Fertilized Eggs
Sylvan Lake	30,000	.....
Sylvan Lake .....	.....	100,000
Cold Lake .....	.....	325,000
	30,000	425,000

CUTTHROAT TROUT

Bow River Distribution 43,000 Yearlings

EYED RAINBOW TROUT EGGS

Elbow Lake 10,000

DISTRIBUTION OF LOCK LEVEN AND EASTERN BROOK (SPECKLED)

Yearlings		Yearlings	
Tributary to Red Deer River:		Tributary to Clearwater River:	
Steuer Creek	800	Prairie Creek	2,500
Grant Creek	1,200	N. Prairie Creek	1,500
Dennison Creek	700	Centre Fork	1,500
Twin Bridges Creek	800	Alfred Creek	1,000
E. Spring Creek	2,000	Bridges Creek	500
Crooked Creek	1,500	Muskeg Creek	500
Rose Creek	1,500	Lippadoo Creek	1,200
James River	2,000	Clear Creek	1,800
Bearberry Creek	2,000	Phyllis Lake	1,000
Raven River	73,000	Kilini Creek	2,500
Spring Creek	2,500	Kilini Creek (Estimated overflow	
Cherry Creek	1,500	from pond)	11,000
Beaver Creek	35,000		
Aldridge Creek	1,000		
Starken Creek	500		
Lagoon Creek	1,500		
Williams Creek	3,500		
Tributary to North Saskatchewan River:			
Chambers Creek	2,500	Sylvan Lake (Lock Leven)	No. 4 Fing. 22,000
Cow Creek	2,000		
Bull Creek	1,500		

DISTRIBUTION OF ADULT PERCH AND PICKEREL

	Perch	Pickerel
Sylvan Lake	44,800	11,000
Hastings Lake	20,000	
Gull Lake	25,000	
Crimson Lake	25,000	
	114,800	11,000
Sylvan Lake (Forage fish, <i>Notropis Hudsonius</i>)		15,000
Distributions to streams and lakes	Total	1,414,900

This report is incomplete without reference to the radio communication system of the Forestry Division which has served the Fisheries Branch very efficiently during the period under review. As radio equipment becomes available, it is hoped that personnel at points distant from telegraph and telephone services will be supplied with operating portable sets or operating mobile sets, and thereby fill a much wanted need.

Mining Lands Administration

REPORT OF THE ASSISTANT SUPERINTENDENT OF MINING LANDS, H. H. SOMERVILLE

Production of coal and petroleum for the calendar year of 1943 was slightly less than for the year 1942. The decrease in coal production amounted to 76,297 tons and the decrease in petroleum was 461,748 barrels.

Production totals of Alberta's minerals secured during the calendar year 1943 were as follows: coal, 7,677,982 tons; petroleum, 9,674,548 barrels; natural gas, 34,161,548 thousands of cubic feet; salt, 17,408 tons; cement, 606,703 barrels; lime, 18,215 tons; sand and gravel, 626,157 tons; stone, 13,961 tons; gold, 21 fine ounces; and silver, 1 fine ounce.

The total value of the minerals produced was \$44,304,438, of which coal was valued at \$24,035,121; petroleum, \$15,724,518; natural gas, *\$1,708,077; salt, \$174,080; clay products, \$978,649; cement, \$1,176,442; lime, \$149,455; sand and gravel, \$309,389; stone, \$47,899; and gold, \$808.

Mineral rights, solid, liquid and gaseous, the property of the Crown in the right of the Province, are not sold, but are disposed of by lease, reservation, permit or grant for limited periods of time. The Division is responsible for the administration of regulations governing these rights on both Provincial and school lands. Revenue is obtained from fees, rentals, bonuses and royalties, and during the fiscal year a total of \$1,196,154.71 was received.

Activity was again shown under the regulations governing the reservation of petroleum and natural gas rights for geological and/or geophysical examination, including any investigation relating to sub-surface geology, and during this fiscal year more than 3,700,000 acres were granted under prospecting reservation. Before commencing or undertaking any geophysical operations, or the examination of the sub-surface geology in the Province, a license must be procured from this Division at a fee of \$25.00, and during the fiscal year 11 licenses were issued.

New regulations governing the reservation of petroleum and natural gas rights for investigation of the sub-surface geology by methods usual in drilling wells for the production of oil were established on January 14, 1944, and new regulations were adopted on February 1, 1944, governing the establishment of Crown reserves, and defining the manner of disposal of such reserves by lease or reservation.

The date for commencement of drilling on petroleum and natural gas leases issued by the Province was extended for one year to April 1, 1945, by Order in Council No. 239/44, because of continued restrictions resulting from the war and the shortage of labour, materials and equipment.

During the year, 779 applications for mineral rights were made at the offices of the Mining Recorders at Edmonton, Calgary and Peace River which required the preparation of a similar number of files in the Division. Several inquiries were made as to the availability of mineral rights, mostly for petroleum and natural gas leases or reservations, by personal application at the office or by correspondence. The Division dispatched a total of 19,130 letters during the year under review.

*Based on well-head valuation of 5c per Mcf.

The natural resources of Alberta were transferred from the Dominion Government to the control of the Government of Alberta on October 1st, 1930, and the following tabulation shows the numbers and acreages of the various leases issued from that date to March 31st, 1944.

Type of Lease	Active at date of transfer	Issued	Reinstated	Divided	Cancelled	Renewed	Active at March 31st, 1944
Petroleum and natural gas	18,863	10,659	143	386	27,345	197	2,509
Petroleum and natural gas, crown reserve	5	20	.....	.....	25	.....	.....
Coal, provincial lands	620	502	2	6	624	166	340
Coal, school lands	60	34	1	.....	58	8	29
Quarrying	45	75	.....	.....	58	.....	62
Quartz mining	4	.....	.....	.....	.....	.....	4
Salt	1	1	.....	.....	1	.....	1
Bituminous sands	4	3	.....	.....	6	.....	1
Miscellaneous	1	4	.....	.....	2	1	2
Dredging	32	8	.....	.....	40	.....	.....
TOTALS	19,635	11,306	146	392	28,159	372	2,948

ACREAGE CONTAINED IN ABOVE LEASES

Type of Lease	Active at date of transfer	Issued	Reinstated	Cancelled	Renewed	Active at March 31st, 1944
Petroleum and natural gas	2,454,802	2,385,398	28,746	4,062,105	23,786	783,055
Petroleum and natural gas, crown reserve	6,160	22,561	.....	28,721	.....	.....
Coal, provincial lands	236,984	140,109	85	185,608	92,536	99,034
Coal, school lands	9,570	2,921	53	6,497	1,504	4,543
Quarrying	1,675	779	.....	1,049	.....	1,405
Quartz mining	182	.....	.....	.....	.....	182
Salt	200	6,721	.....	200	.....	6,721
Bituminous sands	3,952	5,897	.....	6,015	.....	3,834
Miscellaneous	3,560	345	.....	20	22	3,863
TOTALS	2,717,085	2,564,731	28,884	4,290,215	117,848	902,637
Dredging (in miles)	145	24	.....	169	.....	.....

STATEMENT OF BUSINESS TRANSACTED, 1943-44—PETROLEUM AND NATURAL GAS

	Number	Acres
Leases issued	673	228,188
Leases cancelled and relinquished	306	103,632
Leases reinstated	30	6,458
Drilling Reservations granted	7	61,683
Prospecting Reservations granted	59	3,775,695
Prospecting Reservations cancelled and relinquished	29	1,067,222
Fees, rentals and bonuses collected		\$256,331.80
Royalties collected		550,388.15
TOTAL		\$806,719.95

COAL

	Number	Acres
Leases issued on provincial lands	58	8,347
Leases cancelled and relinquished on provincial lands	12	4,217
Leases reinstated on provincial lands .....	.....	.....
Leases issued on school lands	7	448
Leases cancelled and relinquished on school lands	2	92
Domestic permits issued	24	.....
Fees and rentals collected		\$ 93,360.86
Royalties collected		259,323.95
TOTAL		\$352,684.81

QUARRYING

	Number	Acres
Leases issued	10	40
Leases cancelled and relinquished	2	.....
Sand, stone and gravel permits issued	26	.....
Fees and rentals collected		\$ 7,346.08
Royalties collected		3,718.90
TOTAL		\$ 11,064.98

MISCELLANEOUS

	Number
Bituminous sands leases issued	1
Bituminous sands leases cancelled	3
Permits to collect bitumen issued	5
Alkali permits issued	1
Quartz mining claims granted	14
Quartz mining certificates of work issued .....	.....
Powers of Attorney (quartz) filed .....	.....
Placer claims granted .....	.....
Powers of Attorney (placer) filed .....	.....
Bar-digging permits issued .....	.....
Salt leases issued	11
Geophysical licenses issued .....	.....
Fees, rentals and royalties collected	\$25,684.97

ASSIGNMENTS REGISTERED, 1943-44

Nature	Number
Petroleum and natural gas	560
Coal, provincial lands	8
Coal, school lands	3
Quarrying	1
Miscellaneous .....	.....
TOTAL	572

PETROLEUM AND NATURAL GAS

Development of Leases.—The regulations provide that approved expenditures incurred in actual development of petroleum and natural gas rights, acquired under lease or reservation, may be accepted in satisfaction of rentals which otherwise would be payable in cash. During the fiscal year under review, rentals due the Province amounting to \$564,177.64 were satisfied from such expenditures and so reduced the revenue of the Division by that amount. The total revenue received in cash for fees, rentals and bonuses was \$255,946.80 which, added to the expenditure accepted in lieu of rentals, makes a total of \$820,124.44.

Disposal by Public Tender.—Bonuses amounting to \$7,161.05 were accepted during the fiscal year at sales by public tender of petroleum and natural gas rights formerly comprised in cancelled leases or reservations.

Number and Area of Leases.—During the year, 673 petroleum and natural gas leases were issued covering an area of 228,188 acres, and at the close of the fiscal year a total of 2,509 leases were active, containing an area of 783,055 acres.

Reservations.—Regulations governing the reservation of petroleum and natural gas rights, the property of the Crown, for investigation of the sub-surface geology by methods usual in drilling wells for the production of oil, were established by Order in Council passed the 14th day of January, 1944, and numbered O.C. 60/44, and for the purpose of this report reservations issued pursuant to these regulations are referred to as drilling reservations. Applications for this type of reservation may comprise up to 10,000 acres, and a fee of \$250.00 is payable with each application. The drilling of a well on the reservation area must be commenced within 60 days from the date on which the reservation becomes effective, and on or before commencement of drilling the applicant must post a deposit in cash of \$1.00 for each acre contained in the reservation. The reservations may be extended for further periods not in excess of 90 days each on presentation of satisfactory progress reports, but cannot remain in effect for more than 12 months. Seven drilling reservations were issued by the close of the fiscal year, comprising an area of 61,863 acres.

The regulations governing the reservation of petroleum and natural gas rights, the property of the Crown, for geological and/or geophysical examination, including any investigation relating to sub-surface geology, are still in effect and reservations issued pursuant to these regulations will be referred to as prospecting reservations. Fifty-nine prospecting reservations were granted in the fiscal year covering an area of 3,755,695 acres and 29 were cancelled, containing an area of

1,067,222 acres. At the close of the year, 3,877,514 acres were under prospecting reservation.

COAL

New coal leases were granted for the extension of existing operations, for mines where the local market cannot be economically supplied from operating mines in the vicinity, and in co-operation with the Emergency Coal Production Board, several strip mining leases were issued for short terms in an endeavour to alleviate the shortage of coal caused by war conditions. In the fiscal year, 65 leases were issued containing 8,795 acres, being made up of new and renewal leases. There are now 369 active leases comprising 103,577 acres.

During the current fiscal year the following quantity of coal, subject to Crown royalty, was mined:

	Tons
Provincial lands' leases	3,061,315
School lands'	386,677
Coal lands' and mineral sales	1,138,865
TOTAL	4,586,857

Crown royalties collected on coal mined in Alberta since April 1st, 1907, are as follows:

CROWN ROYALTIES COLLECTED ON COAL

Fiscal Year	Royalty Paid	Fiscal Year	Royalty Paid
1907-08	\$ 7,621.67	1920-21	\$ 190,545.80
1908-09	5,322.39	1921-22	185,436.88
1909-10	153,559.98	1922-23	171,723.83
1910-11	218,932.88	1923-24	210,389.53
1911-12	104,894.55	1924-25	148,979.10
1912-13	142,997.79	1925-26	188,277.94
1913-14	147,198.75	1926-27	218,150.10
1914-15	104,489.77	1927-28	231,757.96
1915-16	67,190.17	1928-29	254,616.27
1916-17	149,447.82	1929-30	248,083.71
1917-18	144,634.75	1930-31 (First half)*	90,052.07
1918-19	175,687.66		
1919-20	181,641.80		
			\$3,741,633.17
		Provincial Lands	School Lands
1930-31 (Last half)*	\$105,126.51	\$ 5,014.29	110,140.80
1931-32	145,170.33	6,354.09	151,524.42
1932-33	143,800.01	4,971.78	148,771.79
1933-34	193,527.82	9,520.13	203,047.95
1934-35	176,122.43	12,365.39	188,487.82
1935-36	186,691.23	19,779.76	206,470.99
1936-37	175,214.33	18,596.00	193,810.33
1937-38	158,227.11	15,159.15	173,386.26
1938-39	143,070.78	9,270.23	152,341.01
1939-40	168,802.75	7,812.78	176,615.53
1940-41	200,045.68	15,841.24	215,886.92
1941-42	216,777.95	22,849.83	239,627.78
1942-43	235,613.19	24,700.43	260,313.62
1943-44	239,590.96	19,732.99	259,323.95
TOTAL			\$6,421,382.34

*Date of transfer of Alberta's natural resources from federal to provincial control, and date also of the creation of the Department of Lands and Mines, Alberta, October 1st, 1930.

Permits for Domestic Use.—Permits to mine coal on Provincial lands by strip-mining methods for domestic use may be issued to actual settlers on payment of a fee of one dollar and royalty at the rate of ten cents a ton. Each permit expires on March 31st following its date of issue. During the year, 24 permits were issued authorizing an extraction of 372 tons, none of which could be bartered or sold.

QUARRYING

One quarrying lease was issued on surveyed lands containing an area of 40 acres and nine leases were issued during the fiscal year for removing gravel from the bed of the North Saskatchewan River. Extraction of 159,961 cubic yards of sand, gravel, limestone and shale from Provincial lands was reported for the calendar year of 1943.

At the close of the fiscal year, 62 leases were active containing an area of 1,405 acres.

Permits.—Sand, stone and gravel permits are issued on the beds of rivers and lakes at a fee of \$2.50 and a royalty of five cents a cubic yard, and expire on the 30th day of November following the date of issue. In this fiscal year, 26 permits were issued for the extraction of 38,938 cubic yards.

QUARTZ

During the fiscal year two new claims were recorded in township 15, range 4, west of the 5th meridian, one in township 14, range 6, west of the 5th meridian, one in township 112, range 8, west of the 4th meridian, and one in township 114, range 8, west of the 4th meridian. The claim in the Drumheller district for the recovery of bentonite was renewed, and royalty of \$104.11 was paid on this claim, representing $2\frac{1}{2}\%$ of the value of the bentonite recovered.

The four quartz leases covering 181.8 acres issued by the Department of the Interior are still active.

PLACER

Activity along the Athabasca River in townships 63 and 64, range 3, west of the 5th meridian, continued during the year, and 13 grants were issued for staked claims, and one grant was issued on the North Saskatchewan River near Edmonton.

BITUMINOUS SANDS

One lease is active at present in the McMurray area, containing 3,834 acres, and from its plant at Bitumount 750 barrels of crude oil were extracted. Abasand Oils Limited conducted development and exploration work, but no recovery was reported during the year.

SODIUM CHLORIDE (Common Salt)

This fiscal year the salt plant, operated by Industrial Minerals Limited, reported extraction of 17,425 tons of salt on which royalty at the rate of twenty cents a ton was collected. This plant is located on the lease issued in 1937 covering 6,720.82 acres.

MISCELLANEOUS LEASES

The lease covering an area of 22.5 acres for the removal of sodium sulphate (glauber salts) occurring in comparatively pure condition in sloughs and shallow lakes is still in force, but no production was taken during the fiscal year.

SPECIAL PERMITS

The three annual permits for the collection of bitumen issuing from old wells in the Peace River District were renewed. Collection of 2,387 gallons was reported during the year under review.

PETROLEUM AND NATURAL GAS

The drilling and production of petroleum and natural gas wells in the Province are administered by the Petroleum and Natural Gas Conservation Board, New Telephone Building, Calgary, and particulars as to drilling activity and statistical data are now included in its reports.

Technical Division

REPORT OF THE SUPERINTENDENT OF THE TECHNICAL DIVISION, T. W. DALKIN

Notifications (Land Patents).—Almost one-quarter of one million acres of Provincial and School Lands were patented during the fiscal year ending March 31st, 1944. The records show that of the 249,371.901 acres patented, 33,010.019 acres belong to the School Land Endowment Fund. The grand total of lands now patented since the return of the Natural Resources to the Province stands at 3,747,849.327 acres. The following details of the various Notifications show an increase in the number of Notifications and area over the previous fiscal year:

Classification	Notifications	Area (Acres)
Homesteads	1,014	156,045.368
Sales (including lots in subdivisions)	139	9,595.211
Second homesteads	182	28,237.40
Soldier grants	14	2,104.60
Pre-emption Sales	2	320.00
Special grants	35	1,804.55
Revival of titles	10	1,488.353
Exchanges of land	3	10,373.80
Exchanges of land (Special Areas)	25	5,285.00
Certificates of tax sale redemption	7	1,107.60
School lands' sales	224	32,995.019
School lands' grants	5	15.00
TOTALS	1,660	249,371.901

Details of sales in subdivisions which are included in the 139 Notifications referred to above:

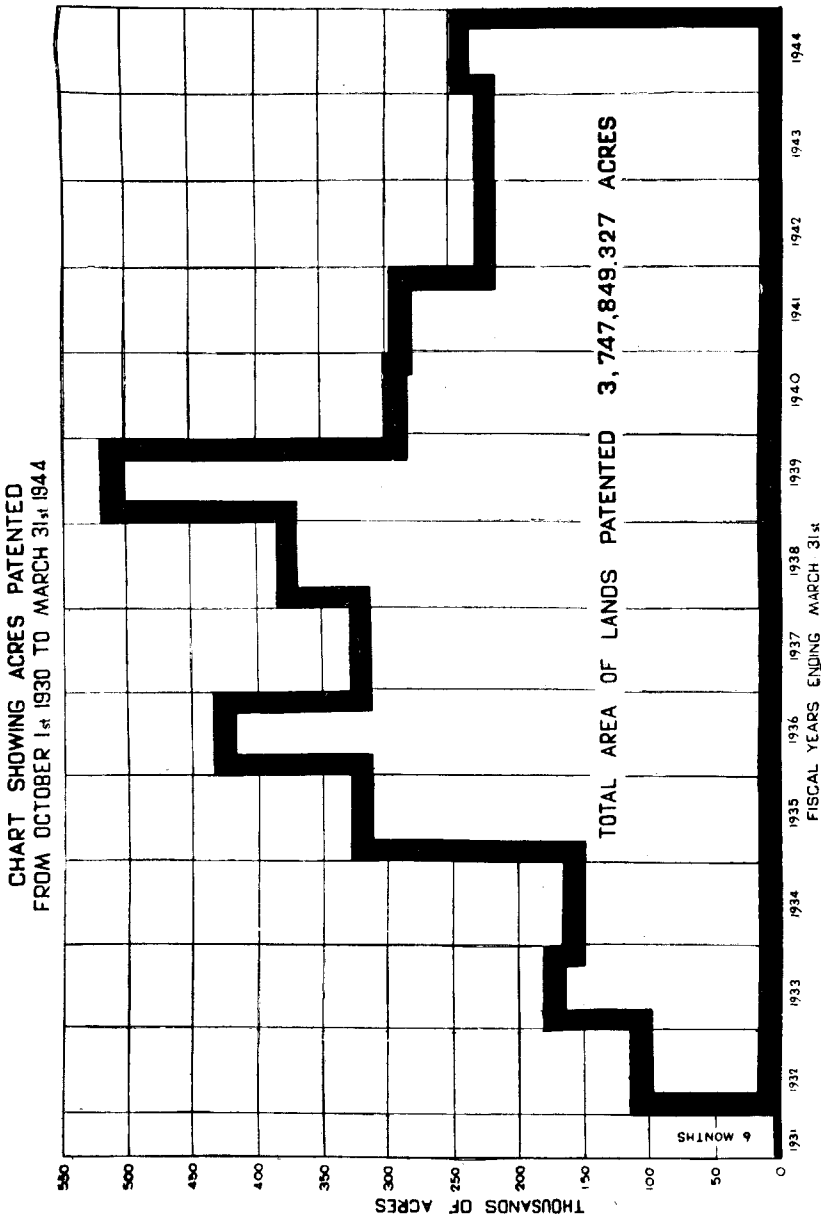
	Notifications	No. of Lots	No. of Blocks
Benton, Plan No. 5705 C.N.	1	2	....
Bideford, Plan 1509 B.A.	1	1	....
Bow City, Plan 895 A.D.	1	2	....
Canmore, Plan 39 Gen.	5	7	....
Cardston, Plan 4180 A.L.	1	6	....
Cessford, Plan 949 C.N.	1	1	....
Coleman, Plan 6808 C.U.	2	3	....
Compeer, Plan 1335 B.A.	1	1	....
Hemaruka, Plan 4934 D.O.	3	4	....
Hillcrest, Plan 5150 S.	1	3	....
Jarvie, Plan 37 Gen.	2	2	....
Loyalist, Plan 473 A.J.	2	2	....
McMurray Settlement, Plan 198 A.S.	1	2	....
Morningside, Plan XVIII	1	1	....
New Bridgen, Plan 4557 D.O.	1	1	....
Pancras, Plan 827 B.A.	1	2	....
Peace River Landing Settlement, Plan 5617 A.K.	1	5	....
Scapa, Plan 8731 D.L.	1	2	....
Sunnynook, Plan 4045 C.O.	2	2	....
Vauxhall, Plan 760 C.N.	1	1	....
Wardlow, Plan 1703 C.P.	1	1	....
Walsh, Plan 3644 B.	2	3	....
TOTALS	33	54	....

School Lands Sales included in the 224 Notifications referred to above:

	Notifications	No. of Lots	No. of Blocks
McLennan Townsite, Plan 1394 E.U.	12	15	....
Venice, Plan 6036 E.T.	5	5	....
TOTALS	17	20	....

Special Grants included in the 35 Notifications referred to above:

	Notifications	No. of Lots	No. of Blocks
East Coulee, Plan 3128 E.Q.	2	42	....
TOTAL	2	42	....



Of the thirty-five special grants that were issued, the one in favour of the Dominion of Canada as represented by the Minister of Mines and Resources for an addition to the Janiver Indian Reserve No. 194, containing 514 acres, more or less, calls for special mention.

This Notification was issued on the 15th of June, 1943, in accordance with Clause 10 of the agreement dated the 14th day of December, 1929, made between the Government of the Dominion of Canada and the Government of the Province of Alberta relating to the transfer of the Natural Resources from Canada to the Province in order to enable Canada to fulfill its obligations under the Treaties with the Indians of the Province.

Certain lands were selected and surveyed adjoining the shore of Bohn Lake in township 80, range 5, west of the 4th meridian, and upon registration of the Notification in the Land Titles Office, Certificate of Title No. 101-Z-98 issued on the 21st day of June, 1943, from which was reserved all mines and minerals.

The duplicate of this title was returned to this office by the Dominion protesting that the Province did not act properly in the matter of reserving unto itself these mines and minerals, and contending that the Indians under the Treaty are entitled to full ownership of the lands including the minerals. Under the circumstances Canada asks the cancellation of the title, and requests a new title including all minerals.

This Department has always taken the position that it is only obligated to transfer the land necessitated by additions to Indian Reserves and not the minerals, and further, under The Provincial Lands Act it has no authority to dispose of mines and minerals in any manner whatsoever except by lease.

Unregistered Patents and Notifications in Land Titles Offices.

Reference was made in last year's report to the large number of Dominion Government Patents and Provincial Notifications lying unregistered in the Land Titles Offices due to the fact that the registration fee had not been paid by the owners.

Arrangements were made with the Land Titles Offices for the return of these documents to the Department, and during March of the year now under review letters were written to all the owners pointing out the necessity of complying with Departmental requirements in order that the Certificates of Title may issue and the land made subject to taxation. There is a belief that many of these owners do not comply with the request for the registration fee in order to avoid losing the land through tax recovery for non-payment of taxes, because in the absence of any Certificate of Title for the land it is not possible to file a tax recovery caveat and follow up the proceedings of acquiring the land by the Crown.

It is expected to present a report next year showing the success or otherwise of our efforts, and some remedy must be found to deal with those owners who are still upon the land and who refuse to proceed to take title.

As already pointed out in last year's report in connection with these documents, this Department started collecting the Land Titles Office Registration Fee before the Notification can be issued from this office, thus insuring the registration of the Notification without delay at the Land Titles Office.

Revested and Tax Recovery Lands.

Similar to "lend lease" the patenting of lands is not a one-way lane because lands still continue to be returned to the Crown by revestment or through tax recovery, but not quite in as great a degree as last year.

Revested lands are those lands to which the Province acquired title from the Dominion Government, through exchange of lands, by deed of gift, or by

direct purchase. The Tax Recovery Lands are, of course, those lands which are returned to the Crown through non-payment of taxes. An additional area of Tax Recovery Lands and Revested Lands of 53,885.27 acres, more or less, has been acquired by the Crown covering lands inside and outside the Special Areas, details of which are as follows:

	No. of Titles	Area Inside Special Areas, Acres	Area Outside Special Areas, Acres	Total Acres
Tax Recovery	341	28,820.00	322.00	29,142.00
Revested	71	9,686.18	15,057.09	24,743.27
Total	412	38,506.18	15,379.09	53,885.27

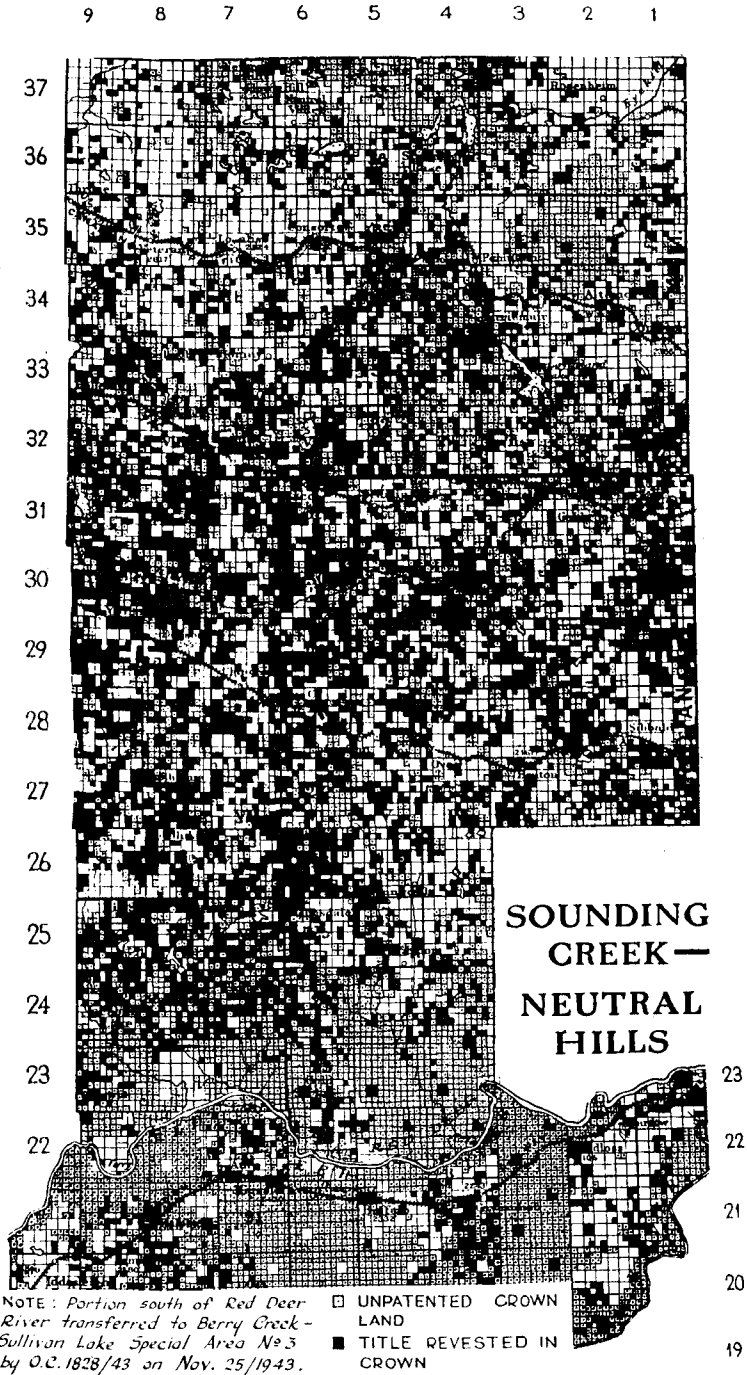
Since the inception of this Department the total areas of land acquired by the Crown are as follows:

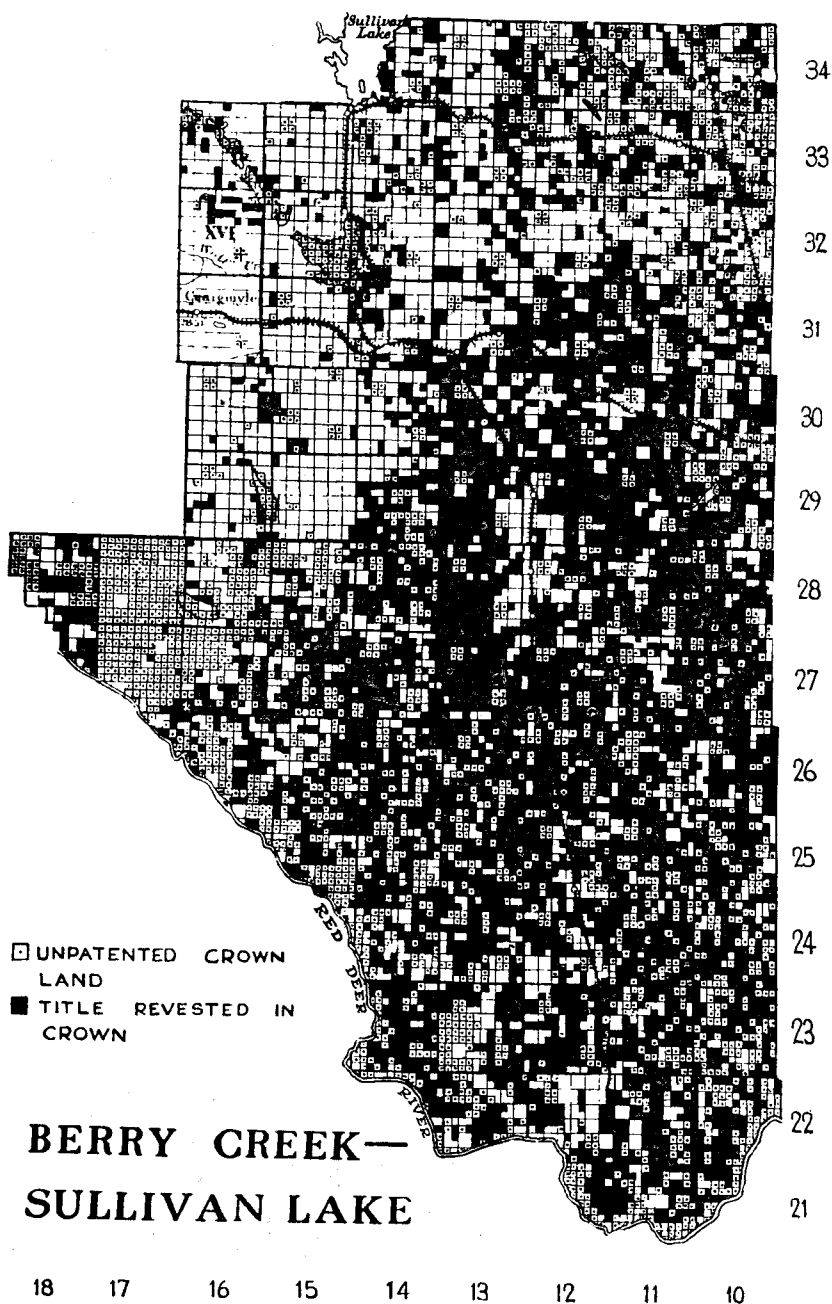
Inside Special Areas	2,204,233.10 acres
Outside Special Areas	1,045,376.61 acres
Total	3,249,609.41 acres

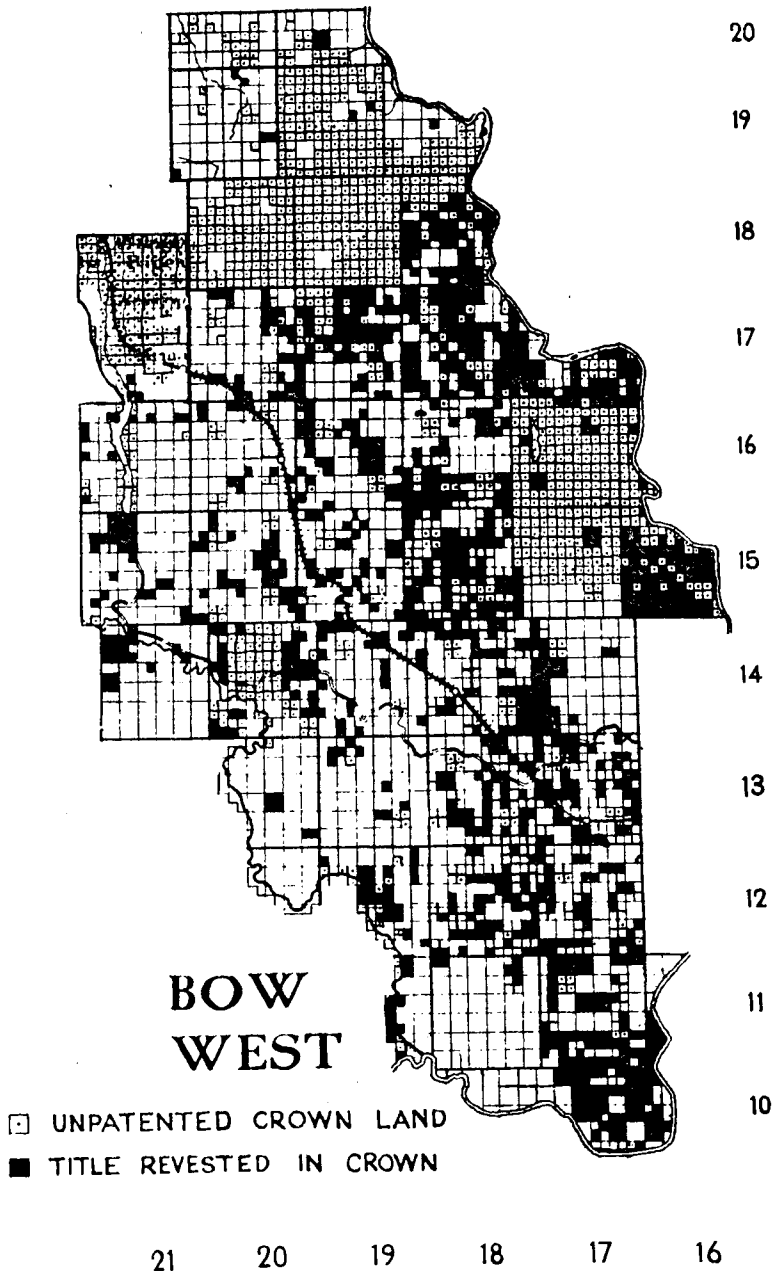
By arrangement with the Department of Municipal Affairs a large area of land, comprising about 123,426.70 acres, is to be transferred to this Department for administration. The lands comprised in this area were previously controlled by The Canada Land Irrigation Company, and immediately upon the passing of an Order in Council these lands will be duly declared Provincial lands.

Special Areas.

As lands in the Special Areas still continue to be transferred back to the Crown, plans are herewith submitted to show the large areas that are now controlled by the Crown.







Continuing the policy of permitting residents to exchange lands within the Special Areas in order to assist in the economic administration of their holdings, many applications were received, and the following exchanges were granted by Orders in Council. Practically all these exchanges were granted in order to consolidate their holdings with either the applicants' titled lands or with lands held under lease.

<i>Name and Address</i>	<i>Lands Transferred to Crown</i>	<i>Lands Granted in Exchange</i>	<i>O.C. No. Date</i>
Wasyl Harahus, Iddesleigh	N.W. $\frac{1}{4}$ 2-19-10-4 160 acres	N.W. $\frac{1}{4}$ 10-19-10-4 160 acres	429/43, 30/3/43 Notification issued 22/5/43
Transfer from Ole G. Myres, 5/10/20.			
Karolina Harahus, Iddesleigh	N.E. $\frac{1}{4}$ 2-19-10-4 160 acres	N.E. $\frac{1}{4}$ 10-19-10-4 160 acres	430/43, 30/3/43 Notification issued 22/5/43
Transmission from Michael Curylo, 3/8/15.			
Thomas Lhlyland Dodds, Neutral Hills	S.E. $\frac{1}{4}$ 13-37-6-4 160 acres	S.W. $\frac{1}{4}$ 30-37-6-4 160 acres	1381/43, 31/8/43 Notification issued 8/12/43
Homestead—Patented, 28/1/38.			
James William Ross-Jones, Loyalist	S.W. $\frac{1}{4}$ 22-36-7-4 160 acres	N.E. $\frac{1}{4}$ 16-35-7-4 162 acres	502/43, 13/4/43 Notification issued 26/7/43
Homestead—Patented 23/7/40.			
Mary Margaret Young, Lone Butte	S.W. $\frac{1}{4}$ 13-26-16-4 160 acres	N.E. $\frac{1}{4}$ 5-28-15-4 160 acres	561/42, 28/4/42 Notification issued 19/5/43
Transfer from Daniel Davies, 7/8/40.			
Arza Otto Johnson, Eyremore	N.W. $\frac{1}{4}$ 21-16-18-4 160 acres	N.E. $\frac{1}{4}$ 23-16-18-4 160 acres	401/43, 23/3/43 Notification issued 22/5/43
Acquired by Notification, 13/8/36.			
Elmer L. Hamm, Enchant	N.E. $\frac{1}{4}$ 10-17-17-4 156 acres	S.E. $\frac{1}{4}$ 2-16-18-4 160 acres	759/42, 2/6/42 Notification issued 20/8/43
Transfer from Andrew T. Albertson, 20/12/29.			
Joseph Fenske, Sedalia	N. $\frac{1}{2}$ 7-28-6-4 320 acres	N.W. $\frac{1}{4}$ 17-31-5-4 S.W. $\frac{1}{4}$ 20-31-5-4 322 acres	1202/42, 18/8/42 Notification issued 12/11/43
Transmission from father, Herman August Fenske.			
Benjamin Fenske, Sedalia	S. $\frac{1}{2}$ 7-28-6-4 320 acres	S. $\frac{1}{2}$ 4-31-5-4 322 acres	402/43, 23/3/43 Notification issued 15/11/43
Transmission from father, Herman August Fenske.			
Bessie Cloyton Edler, Youngstown	S.W. $\frac{1}{4}$ 7-29-8-4 N. $\frac{1}{2}$ 7-29-8-4 471 acres	N.W. $\frac{1}{4}$ 23-29-9-4 W. $\frac{1}{2}$ 26-29-9-4 477 acres	403/43, 23/3/43 Notification issued 14/5/43
Transfer from David Dishan, 29/8/27.			
Rasmus Ellingsen Haaland, Lomond	S. $\frac{1}{2}$ 10-18-18-4 320 acres	N. $\frac{1}{2}$ 10-17-19-4 320 acres	1378/43, 31/8/43 Notification issued 3/1/44
S.E. $\frac{1}{4}$ 10, Homestead—Patented 18/1/26. S.W. $\frac{1}{4}$ 10, Transfer from Manufacturers Life Insurance Company, 15/12/41.			
James Arthur Johnson, Monitor	N.E. $\frac{1}{4}$ 30-33-4-4 160 acres	N.W. $\frac{1}{4}$ 30-33-4-4 160 acres	398/43, 23/3/43 Notification issued 26/5/43
Patented 2/2/16.			
William Vernal Ward, Kirkmuir	N.E. $\frac{1}{4}$ 7-33-2-4 160 acres	N.W. $\frac{1}{4}$ 30-33-2-4 160 acres	404/43, 23/3/43 Notification issued 15/10/43
Transfer from John Cecil Ward, 20/6/17.			
Louis Beal Helfer, Cappon	N.W. $\frac{1}{4}$ 23-25-5-4 160 acres	S.W. $\frac{1}{4}$ 19-25-4-4 160 acres	399/43, 23/3/43 Notification issued 17/5/43
Transfer from Dept. of Municipal Affairs, 1/3/40.			
Henry Stanley Hilton, New Brigden	S.W. $\frac{1}{4}$ 14-31-4-4 160 acres	S.W. $\frac{1}{4}$ 2-31-4-4 160 acres	405/43, 23/3/43 Notification issued 22/5/43
Patented 31/7/33.			

TECHNICAL DIVISION

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Name and Address	Lands Transferred to Crown	Lands Granted in Exchange	O.C. No. Date
Floyd Samuel Blair, Youngstown	S.E. $\frac{1}{4}$ 19-28-9-4 160 acres	S.W. $\frac{1}{4}$ 7-28-9-4 160 acres	583/43, 21/4/43 Notification issued 25/10/43
Transfer from M. D. Collholme 243, 28/1/29.			
John Larson, Milo	N.W. $\frac{1}{4}$ 9-17-19-4 160 acres	S.E. $\frac{1}{4}$ 10-17-19-4 160 acres	400/43, 23/3/43 Notification issued 26/7/43
Transfer from Carlos L. Brady, 5/11/17.			
Billie Douglas Bolduc, Travers	S.W. $\frac{1}{4}$ 26-15-20-4 S.E. $\frac{1}{4}$ 28-15-19-4 320 acres	N.E. $\frac{1}{4}$ 34-15-19-4 N.W. $\frac{1}{4}$ 35-15-19-4 320 acres	1099/43, 15/7/43 Notification issued 26/11/43
S.W. $\frac{1}{4}$ 26, Transfer from Central Lands Limited, 11/1/43. S.E. $\frac{1}{4}$ 28, Transfer from Janith Shirley, 12/4/40.			
Brinton Walls, Scapa	S.W. $\frac{1}{4}$ 23-34-13-4 159 acres	N.W. $\frac{1}{4}$ 22-34-13-4 159 acres	407/43, 23/3/43 Notification issued 15/6/43
Transfer from Calgary and Edmonton Railway Company.			
Mary Etta McNally, Cereal	S.W. $\frac{1}{4}$ 34-24-5-4 160 acres	N.W. $\frac{1}{4}$ 3-29-5-4 160 acres	1021/43, 29/6/43 Notification issued 5/1/44
Homestead—Patented 28/4/39.			
Robert James Unsworth, Scapa	N.W. $\frac{1}{4}$ 17-33-14-4 160 acres	S.E. $\frac{1}{4}$ 25-33-14-4 160 acres	1293/43, 10/8/43 Notification issued 12/11/43
Patented 22/9/19.			
Medus James Bolduc, Travers	E. $\frac{1}{2}$ 26-15-20-4 320 acres	N. $\frac{1}{2}$ 33-15-19-4 320 acres	1100/43, 15/7/43 Notification issued 19/1/44
Transfer from Central Lands Limited, 29/7/42.			
Lorne Proudfoot, Chinook	S.W. $\frac{1}{4}$ 28-28-7-4 160 acres	S.E. $\frac{1}{4}$ 22-28-7-4 160 acres	1022/43, 29/6/43 Notification issued 5/11/43
Transfer from Abigal E. C. George, 6/3/28, reg'd. 18/1/32.			
Albert Bakken, Excel	S.W. $\frac{1}{4}$ 2-28-5-4 160 acres	N.E. $\frac{1}{4}$ 10-28-5-4 161 acres	1053/43, 9/7/43 Notification issued 18/10/43
Homestead—Patented 4/8/34.			
James Bert Lynn, Youngstown	N.E. $\frac{3}{4}$ 17-27-9-4 N.E. $\frac{1}{4}$ 32-27-9-4 321 acres	S. $\frac{1}{2}$ 20-27-9-4 322 acres	1098/43, 15/7/43 Notification issued 25/10/43
N.E. $\frac{1}{4}$ 17, Transfer from Hattie Lynn, 20/8/29. N.E. $\frac{1}{4}$ 32, Transfer from Charles A. Norton, 28/8/16.			

Altogether a total of 5,267.00 acres were transferred to the Crown in exchange for which 5,285.00 acres were transferred to the various applicants on the basis of quarter section for quarter section.

As a matter of policy exchanges of land are usually restricted to the Special Areas, but owing to unusual circumstances the following exchanges were granted in connection with land outside the Special Areas:

Name and Address	Lands Transferred to Crown	Lands Granted in Exchange	O.C. No. Date
Ester Larum, Corbett Cheek	N.W. $\frac{1}{4}$ 21-61-9-5 160 acres	N.W. $\frac{1}{4}$ 7-16-8-5 160 acres	793/43, 2/6/43 Notification issued 16/7/43
Homestead—Patented 24/2/42.			
Mack Higdon	Fr. 1-6-4 2-6-4 1-7-4 2-7-4 2-8-4 4,477.00 acres	Fr. 2-7-4 4,474.30 acres	1710/43, 2/11/43 Notification issued 31/1/44
Gilchrist Bros. Limited, Wild Horse	Fr. 1-3-4 1-5-4 2-1-4 2-2-4 2-3-4 2-4-4 2-5-4 3-3-4 3-4-4 5,751.39 acres	Fr. 1-2-4 1-5-4 2-5-4 3-5-4 3-3-4 5,739.50 acres	1377/43, 31/8/43 Notification issued 10/1/44

With reference to the exchange granted to Mrs. Ester Larum, favourable consideration was given to her application due to the fact that fire swept through her homestead land destroying a considerable area of the top soil, and under the circumstances she was allowed to exchange her original homestead quarter for another quarter section adjoining her husband's homestead entry.

In connection with the Mack Higdon Exchange, this can be considered beneficial both to the Department and to the applicant. In the Government ranch lands held by Mack Higdon were located isolated patented lands belonging to the applicant, which originally belonged to the Hudson's Bay. By the Crown taking title to these lands the Department now has control of a solid block of lands, and in return for which Mack Higdon received title for a solid block of land.

Due to the fact that a report revealed that the Crown lands granted to Mr. Higdon were of a higher value than those received from him, title to an additional 483 acres was also received from him together with a cash consideration of \$329.15.

Similar to the Mack Higdon exchange, the Gilchrist Brothers Limited transferred to the Crown several isolated parcels of land surrounded by Crown lands in exchange for consolidated areas of land. After an inspection being made, the Crown lands were valued to be worth 25c per acre over and above the Gilchrist lands, and in order to equitably settle the difference other lands, comprising an area of 3,363 acres, more or less, were transferred to the Crown by the applicants.

The application from the Credit Foncier on behalf of that company and the Holland Canada Mortgage Company Limited, for an exchange of lands involving thousands of acres, and which was referred to in last year's report, is still under consideration. In an exchange of land of such dimensions, many difficulties are naturally bound to arise, and in proceeding with these negotiations due consideration is being given to all parties that may be affected by such an exchange.

When lands are added to or deleted from the Special Areas, considerable work is involved in the transfer of records and files to or from this Department. It is, therefore, with a certain amount of satisfaction that it can be reported that no changes in the boundaries of the areas were effected. There was, however a change of the internal boundaries of the Special Areas as will be noted on the map of the Sounding Creek-Neutral Hills area, whereby that portion south of the Red Deer River was transferred to the Berry Creek-Sullivan Lake Area No. 3 by Order in Council 1828/43 on November 25th, 1943.

Agreements for Sale.

When the British Block was formed and certain areas lying to the east, south and west of this Block were deleted from the Special Areas and formed into what are now known as I.D's 121 and 122, there remained with this Department a large number of lands which were still held under old Agreements for Sale, many of which were greatly in arrears.

It had been the definite opinion of the Department of Municipal Affairs for some time that inasmuch as these lands were now within the limits of these Improvement Districts, that such lands under these Agreements for Sale should be properly turned over to the Department of Municipal Affairs.

After some discussion, this Department agreed to transfer these particular lands, and by memorandum of the 16th of February, 1944, all the Duplicate Certificates of Title, the files and the accounts were handed over together with any moneys received on these Agreements of Sale that had not been applied.

Before leaving the Special Areas, reference should be made to all the old municipal buildings which were used as offices by the old municipalities prior

to the dissolution of these municipal districts and the formation of the Special Areas. Apparently no particulars of these buildings and very little information seemed to be available, and under the direction of the Deputy Minister a thorough and comprehensive effort was made through all available sources in order to obtain a complete list of all the old buildings that were formerly used by the Secretary-Treasurers.

Roadways.

The Director of Surveys of the Department of Public Works forwarded tracings of the surveys of sixty-seven roadways. These surveys included high-ways and road diversions in improvement districts. These surveys are all done by the surveyors of the Department of Public Works. Other surveys of roadways were located in municipalities. These surveys are done at the expense of the municipality and by surveyors privately appointed to do the work. All these surveys affected a total of 191 parcels of available or alienated Crown land, and where the Crown land is available the reservations are made free, but where the roadways affect alienated Crown lands, and particularly lands under Agreement of Sale, assignments are obtained and compensation exacted. In some cases the surveys of new roadways necessitate the abandonment and closing of the old roadways. In all instances the Director of Lands and the agents in whose areas the roadways are located are advised and the necessary entries are made in their respective records.

In one particular case an application was made to the Board of Railway Commissioners for the elimination of a dangerous crossing on the Canadian National Railway right-of-way located on the road allowance adjoining the west boundary of the southwest quarter of section 13, township 31, range 15, west of the 4th meridian, and a new survey was made showing the road diversion over the railway right-of-way to the east in the southwest quarter of section 13, above described.

New Surveys.

For economic reasons our survey programme has been cut down to the absolute minimum, but from time to time during the course of the administration of the lands there are some surveys which must be executed. Some of these surveys have been awaiting completion for some considerable time, but the delay is in no way attributable to the Director of Surveys of the Department of Public Works, under whose jurisdiction the surveyors perform the work. Man-power shortage, which is so keenly felt in this part of Canada, is solely attributable. The following surveys have been completed:

S.W. $\frac{1}{4}$ 13-83-12, West 6th Meridian.—A homestead entry was granted upon this quarter section, which was later found to be insufficiently surveyed to form the basis of a Notification. As the entrant on this land died, it was felt, under the circumstances, that this survey should be completed in order that the executors could dispose of the estate. At the same time the balance of section 13 was surveyed and also the northwest quarter of section 12 and the northeast quarter of section 14. This survey was approved on the 30th day of September, 1943.

Sections 30 and 31-68-8, West 6th Meridian.—This plan was approved and confirmed by the Director of Surveys on the 8th of October, 1943.

Sections 18 and 19-50-26, West 5th Meridian.—These sections were surveyed so that leases could be issued to the Shell Oil Company. This survey was approved and confirmed on the 26th of October, 1943.

Twp. 16, Rge. 30, West 4th Meridian.—In dealing with the Agreement of Sale on Crown land issued by the Dominion Government many years ago, it was discovered in checking an old roadway diversion with the latest plan of

survey, approved and confirmed at Ottawa on the 23rd day of February, 1927, that either the survey of the roadway was wrong or the survey of this township was wrong in as far as it affected the row of fractional quarter sections adjoining the 5th meridian. A request was made for a surveyor to make an examination, and it was discovered that the row of fractional sections, herein referred to, were shown upon the Dominion Government plan to have a width of about one chain more than the actual measurement upon the ground. Under the circumstances, a new survey of this township was called for, and a new plan of survey has now been received, approved and confirmed on the 15th day of February, 1944.

Twp. 70, Rge. 1, West 6th Meridian.—As a complaint was received from a homesteader in this township that there was a duplication of the numbering on the survey monuments in this vicinity, an inspection was made by an Alberta land surveyor, who reported that the survey posts at the northeast corner of section 10, the northeast corner of section 11, and the north quarter corners of sections 11 and 12, all in township 70, range 1, west of the 6th meridian, were found to be incorrectly marked when this survey was made by the Dominion Government. These errors have now been duly corrected.

Air Landing Fields.

With aeroplanes of every description flying in and out of our Capital City with cargoes of war material and the most modern aircraft carrying world renowned personages, it is only natural that there continues to be a demand for air landing fields. This demand is principally from the Dominion Department of Transport for war purposes. The following are some of the applications that have been dealt with.

Air-to-Ground Firing Range.—Upon representations being made on behalf of the Dominion Government, an area of land comprising 3,608.92 acres, more or less, in the vicinity of Suffield, was reserved for the Department of Transport for the purpose of an air-to-ground firing range under the provisions of Order in Council 1290/43 dated August 11th, 1943. The reservation was made for the duration of the present war and six months thereafter. A description of the lands reserved is as follows:

All those parcels or tracts of land, situate, lying and being in the Fourteenth (14th) Township, in the Eighth (8th) Range, West of the Fourth (4th) Meridian, in the Province of Alberta, Dominion of Canada, and being composed of:

The North West quarter of Section Four (4), the North half and South West quarter of Section Five (5), the North East quarter of Section Six (6), the East half of Section Seven (7), the whole of Sections Eight (8) and Nine (9), the South West quarter of Section Ten (10), the North West quarter of Section Seventeen (17), the East half of Section Eighteen (18), and all those portions of the North West quarter of Section Ten (10), the South West quarter of Section Fifteen (15), the South half and North West quarter of Section Sixteen (16), the North East quarter of Section Seventeen (17), and the South half of Section Twenty (20), lying to the South and West of a surveyed roadway, as shown upon a plan of survey of the said roadway of record in the Department of Lands and Mines at Edmonton as No. 298 RD, and on file in the Land Titles Office at Calgary for the South Alberta Land Registration District as No. 219 E.Z., of the said Township, as shown upon a map or plan of survey of the said Township, approved and confirmed at Ottawa on the Twenty-ninth (29th) day of March, Nineteen Hundred and Eleven (1911) by Edouard Deville, Surveyor General of Dominion Lands and on file in the said Department of Lands and Mines;

Reserving thereout all mines and minerals.

Bombing Range.—Order in Council 1376/43, dated the 31st of August, 1943, was passed reserving for the Department of Transport the northwest quarter of section 17, township 13, range 7, west of the 4th meridian, for the duration of the present war and six months thereafter, to be used as a bombing range. This bombing range is located a few miles west of Medicine Hat.

R.C.A.F. Field, Whitla.—Negotiations were completed for the reservation on behalf of the Dominion Government for the duration of the present war and six months thereafter of an area for an outer marker and access thereto in connection with the airfield at Whitla. This reservation was entered upon the north half of section 13, township 12, range 8, west of the 4th meridian.

An application was also received on behalf of the Dominion Government for certain lands in connection with the airfield located on the southwest quarter of section 14 and the northwest quarter of section 11, township 12, range 8, west of the 4th meridian, located just to the southwest of the outer marker herein referred to, but this application seems to have been left in abeyance by the Dominion Government representatives.

Bombing Range at Airdrie.—A certain surveyed lake covers part of the north half of section 1 and part of section 12, in township 27, range 28, west of the 4th meridian, and upon representations being made on behalf of the Dominion of Canada this area was on the 1st of February, 1944, reserved for the duration of the present war and six months thereafter to the Dominion Government, Department of Transport, for the purpose of a bombing range.

Fort McMurray.—For some time the Canadian Pacific Airlines have been interested in air landing fields at McMurray and other northern points, and in accordance with their application Order in Council 751/43 was passed on May 19th, 1943, granting the right to construct two landing runways for aircraft, each runway being 7,000 feet long and 750 feet wide, located on the southeast quarter of section 29, the south half of section 28, the northeast quarter of section 20, and all of section 21, in township 88, range 8, west of the 4th meridian. The Order in Council also provided for the construction of other works properly connected therewith.

A License of Occupation was issued to this company to be in effect for the duration of the present war and six months thereafter. On the 5th of November, however, a copy of a plan was received covering the lands granted to the Canadian Pacific Airlines and other additional lands. This plan had been filed by the Dominion Government, Department of Transport, in the Land Titles Office at Edmonton in accordance with section 15 of the Expropriation Act, Chapter 64 of the Revised Statutes of Canada, 1927.

Other lands at McMurray, in this case subdivided property, have been applied for on behalf of the Dominion of Canada to be used in conjunction with the United States of America for war purposes, but at the time of writing this report these lands have not been definitely secured by Order in Council.

Embarras Portage.—On August 7th, 1942, upon representations made by the Canadian Pacific Airlines Limited, a provisional reservation was entered in our records on behalf of that company for an intermediate airfield between McMurray and Fort Smith at a location on the east bank of the Athabasca River and about ten miles above Embarras Portage. The location of this airfield lies in township 106, range 9, west of the 4th meridian, unsurveyed territory, and is required for the purpose of carrying freight, supplies and personnel concerned in the development of the Norman Oil Wells production for the Government of the United States of America and known as the "Canol Project."

On November 5th, as in the case of the McMurray Field, a letter was received under instructions of the Dominion Department of Transport attaching a copy of the Expropriation Plan filed by the Dominion Crown in the Land Titles Office on the 26th of October, 1943, under the Expropriation Act, above referred to. This plan covers all the land under provisional reservation to the Canadian Pacific Airlines at this point and additional land measuring in all about 11,000 feet in the form of a square with the right bank of the Athabasca River forming the southwesterly boundary.

Logging Roads.

The activity of the Forestry Division in the demand for products of the forest was reflected in this Division by the many inquiries made in connection with logging roads. The following Licenses of Occupation were issued in order that the lumber could be brought out from the timber berths:

License of Occupation No. 73 S.L. was issued under authority of Order in Council 460/43, dated April 6th, 1943, for a short logging road, the applicants being Carroll Bros. Lumber Company, Limited, of Winfield, Alberta.

License of Occupation No. 141 issued in favour of A. B. Ellefson of Radway, Alberta, under authority of Order in Council 1016/43, dated the 29th of June, 1943.

License of Occupation No. 144 issued to Stanley Kasawski of Flatbush, Alberta, on the 21st of December, 1943, under authority of Order in Council 1505/43.

License of Occupation No. 147 was issued to the Swanson Lumber Company on the 18th of January, 1944, under authority of Order in Council 76/44. This was a fairly long roadway and stretched through four townships.

License of Occupation No. 148 issued to the Canyon Creek Sawmills Limited of Spurfield, Alberta, on the 18th of January, 1944, under authority of Order in Council 77/44. At the time, however, of this report going to press the applicants have not executed the License of Occupation, and as some considerable time has elapsed since the document was forwarded, notice has been served that the License may be cancelled if immediate attention is not given to the Department's request.

New Maps.

In 1940 a map showing the coal areas of the Province of Alberta based on geological formations by Dr. J. A. Allan of the University was published. Last year some changes were made, and our stock of about 3,000 maps was run through the printing presses showing these changes, and at the same time more vivid colours were impressed upon the plan in order to clearly show the different areas.

As our supply of the 35 mile map of the Province was exhausted, this map was checked and brought up to date in as far as the highways were concerned and other main features. By arrangement with the Department of Mines and Resources at Ottawa, 5,000 copies of this revised map have been received. It is a small and useful size and there is a steady demand for same.

As noted above, close co-operation is maintained with the Department of Mines and Resources at Ottawa as far as our maps are concerned, and certain maps of Alberta areas issued by the Dominion are submitted to this Division to be checked before publication. As aviation becomes more commonplace in this part of the world, great care is given to the checking of these maps so that every feature will be shown that may prove a hazard to aviation and at the same time every feature that may be a help, such as radio and telephone communication and rangers' cabins are also shown.

The following advanced copies of the National Topographic Series on a scale of 8 miles to the inch were received, thoroughly checked and returned to Ottawa: Grande Prairie, Peace River Sheet No. 83 NW.; Lake Athabasca, No. 74 NW.; Tete Jaune, Edson Sheet No. 83 S.W.

Aerial Photography.

For some years now topographical maps have been prepared from aerial photography, and it will be no surprise to know that aerial map making is doing

wonders in World War II. Apart from the tremendous aerial mapping that has been done by the R.A.F. and R.C.A.F., the United States airmen have photographed since the attack on Pearl Harbor more than eight million square miles of the earth's surface, or an area twice the size of the United States.

In the area so photographed was included portions of the Province of Alberta about which practically nothing was known, particularly in the north-west corner of the Province. The area photographed by the United States airmen covers that portion of the Province of Alberta which lies roughly to the north and west of the line drawn from Grande Prairie to Chipewyan.

The most up-to-date methods were used including the new invention of "tri-metrogon" photography. This enables a flier to photograph the ground below from horizon to horizon. The equipment consists of three cameras with wide-angle lenses, one pointing straight down and one obliquely to each side. By means of triangulation and ingenious translating devices, distortions resulting from the oblique angles are corrected in the final print. The tri-metrogon method, by making it possible to space charting flights 25 miles apart instead of only four to six, has enormously accelerated mapping.

It, therefore, takes little imagination to realize that within a reasonable space of time topography and other various details of the little known areas of our Province, and indeed of the far-flung corners of our Dominion, will be available upon maps with such dependable accuracy that could not be dreamed of by the old pioneers of years ago, who had no other choice than to stay on the ground with only the pack-horse and canoe as their means of transportation.

It is, therefore, very gratifying to report that a complete set of all the photographs in the aerial flight over Alberta have been received through negotiations with the Director of Photography in Washington, D.C. A wealth of information is unfolded by these photographs, but for the time being they are not available to the general public because of censorship restrictions.

Post-war Reconstruction.

A great deal has been heard of, and much has been read about "Post-war Reconstruction," and from such activity in this regard it is clear that Alberta is fully aware of its responsibilities.

Committees and sub-committees have been formed to grapple with the various problems, and it is with some measure of satisfaction that this Division can report that assistance was given regarding our natural resources. Particular reference should be made to the data that was supplied to the sub-committee on "Agriculture, Lands and Soldiers' Settlement," of which the late Mr. Alfred Speakman, M.L.A., was the capable chairman. In this connection the maps to which reference was made in last year's report were of unestimable value, for a glance at this series of maps would give a bird's-eye view of the disposition of the lands in any portion of the Province.

Maps and plans and other valuable information, particularly with reference to coal, were also prepared for the sub-committee on "Natural Resources and Conservation," upon which our Minister acted as chairman.

In addition, a comprehensive map was prepared for the Forestry Division, showing post-war development schemes, such as trails, roads, telephone lines, cabins, etc., in the Forest Reserves and the Northern Alberta Forest District.

Armed Forces.

Edmonton is a busy zone with our own and American armed forces stationed here. It is also a very active air centre with No. 3 Manning Depot, No. 4 I.T.S., No. 2 A.O.S., and the Northwest Staging Route being located here.

Numerous personal requests for information and maps have been received, and it has been our pleasure to be of assistance to officers and men alike whose homes are scattered throughout the British Empire and the United States.

Among the officers, mention should be made of Major-General MacKenzie, Inspector General for the Western Command. The Major-General was very gratified for our assistance, particularly with reference to a composite map on a large scale showing the territories under his command, extending from Manitoba to the Pacific and Arctic Oceans.

Whilst making reference to the armed forces, may reference be made to the urgent call that was sent out by the Red Cross Clinic for blood donors. It was thought important and serious enough for this Division to call a meeting, which resulted in practically 100% enrollment of the members as blood donors.

The North Pacific Planning Project.

Due to the "shrinking" of the two great oceans, the Atlantic and the Pacific, which are regularly being spanned in six to thirty hours of flying time, the world is no longer divided geographically and politically into Eastern and Western Hemispheres. A new concept is rapidly emerging since "Pearl Harbour."

Canada and the United States have been fully aware of the dynamic situation in the entire North West Pacific. A chain of airfields has been built extending from the airfields in Alberta to the airfields in Alaska. A military highway was rushed through connecting these airports.

The two nations have spent many millions of dollars ensuring the security of this continent, and now the North Pacific Planning Project has been formed to continue that close co-operation of the United States and Canada and to study the economic development of the northwest portion of the North American Continent.

It is because the northern portion of our own Province of Alberta lies within the zone of economic study that reference is made in this report to the North Pacific Planning Project, and in co-operation with the Canadian directors of this project much useful information has been prepared, including maps showing soil types and other data for transmission to Ottawa. As the products of the forests and streams will play a vital roll in this study, the Director of Forestry and Game Commissioner were also instrumental in contributing to the wealth of information that will be available to the American and Canadian directors.

Draughting.

The variety of maps and plans prepared by this Division was consistent with the variety of applications received for our natural resources. In order to facilitate the work of dealing with the applications by the Lands Branch, the Deputy Minister authorized that plans or sketches be prepared for all such applications showing the fullest details so that all information would be available for consideration of the applications.

All forestry applications are routed through the Technical Division for the preparation of plans and descriptions, and plan records are now kept showing the disposal of resources in accordance with the system used for the Lands Branch.

By way of explanation of the Fish and Game Regulations, a number of tracings were draughted showing the areas for open and closed seasons on birds, game, etc. Of the many plans prepared reference should be made to the Canada Land and Irrigation Company's holdings with a view to revesting same in this Department. The proposed fencing of the areas was also shown for the economic administration of the lands involved. A great deal of interest was

manifest in the bituminous sands, and maps were also prepared showing the various holdings of these rich resources along the Athabasca River.

Photostat Work.

As all Divisions feel acutely the man-power shortage, it hardly seems necessary to make reference to it (here I would like to express my appreciation to the staff for the very co-operative way the members are carrying on), but in this regard it cannot be over-emphasized how fortunate and far sighted was the purchase of this photostat machine, which not only makes perfect copies of plans and documents of every description, but also can enlarge or reduce them. All Departments of the Government and also the University of Alberta avail themselves of the service provided. In rush periods of work arrangements are made even for immediate service, as in the case of the Insurance Branch.

In continuing the consolidation of the municipalities a large number of photostats were run through for the Department of Municipal Affairs, showing the proposed enlarged areas so that they could be distributed for discussion among the various officials concerned. Listed in the special work done were fifty-two photostats of maps to an enlarged scale for the Red Deer Regional Reconstruction and Rehabilitation Committee.

Recordak Machine.

This particular activity may be listed as a going concern, and the volume of work is only limited by the number of machines and operators to operate them. At the present time only two machines are in use, one of which was specially designed by this Division and equipped with a movie camera which does double duty for photographing large plans and documents which will not fit into the rented Recordak machine, and also for taking movies of special subjects in the field.

A thorough and complete filing system has been installed to keep track of the files as they are photographed, and as the process is unbelievably simple, rapid progress should be made which at the present time is restricted due to war priorities on these machines. The films are developed by the Recordak Corporation, and when received are run through "the Reader" for a test as to readability, and any indistinct letters are rephotographed. The films are numbered and entered throughout the records and filed away in such a manner that any correspondence from any file can be run through the Reader just as simply as calling for the file.

Mimeograph Machine.

Almost the same number of stencils were cut this year and almost the same number of copies were run off as last year. A total of 373 stencils were cut, from which 198,240 copies were made.

Mineral Taxation.

Unfortunately it was not possible to make amendments to The Mineral Taxation Act at the last session of the Legislature, but as time goes by much valuable information has been assembled which emphasizes very clearly the necessity of a special effort being directed towards action in this regard, or possibly a new Act. The Act in its present form was a good beginning, and it has only been in the practical administration of it that its shortcomings have been discovered.

Whilst provision is made for the sending out of assessment notices in the producing areas, no provision is made for sending out assessment notices in the non-producing areas, and this appears to be the main weakness in placing the

responsibility upon the mineral owners in the non-producing areas to supply our Minister with a schedule of the mineral lands and remit the taxes.

Outside of the large corporations, it is safe to say that the majority of the mineral owners do not know of the existence of this Act, and in almost every case great surprise is expressed by the mineral owners to whom letters, as a matter of courtesy, have been written advising that the mineral taxes have not been paid. In our dealings with the Land Titles Offices and through other channels mineral titles are discovered, and whilst under the Act it is no responsibility of ours to communicate with these owners, it is felt it is expedient in most cases to do so because the non-payment of taxes is invariably due to lack of knowledge regarding the existence of the Act.

As already pointed out in last year's report, and which cannot be too strongly emphasized in this year's report, complete records should be obtained of all mineral owners and set up similar to surface rights so that assessment notices can be sent out to all mineral owners regardless of whether the minerals lie within a producing area or a non-producing area. To obtain this information and to set up such records is no small task, and would be beset with many difficulties not apparent to the average laymen, but it would undoubtedly pay back dividends in tax returns, and it is respectfully suggested that this idea be kept in mind for post-war attention when additional help will be available. As it is, it will be seen from returns that the revenue is increasing each year, but nothing in comparison to what could be received if this mineral taxation was tackled in a thorough-going manner as herein suggested.

For the fiscal year ending 1944—\$102,075.15, for the fiscal year ending 1943—\$94,364.68, and for the fiscal year ending 1942—\$75,120.93 were collected under The Mineral Taxation Act.

Since the passing of this Act the tax rates have remained the same. For minerals in non-producing areas the tax has been $\frac{1}{2}$ c per acre and for minerals in producing areas 2 mills on the dollar on the assessed value of the minerals. Under the Act the limit of taxation is $\frac{1}{2}$ c per acre, but in the producing areas a tax may be imposed not exceeding 10 mills on the dollar.

Accounting Division

REPORT OF THE ACTING ACCOUNTANT, E. R. EDWARDS

During the year ending March 31st, 1944, there was a surplus of \$1,959,877.65 on income account, an increase of \$13,667.06 over the previous year. The total cash received from all sources during this fiscal year was \$4,504,913.73, as shown in statement "A".

The main increases in revenue were shown by the School Lands Branch, \$83,713.22, the Timber Branch \$68,934.16, and the Game Branch \$14,948.46. The Mining Lands Branch showed a decrease of \$103,271.63, due to a decrease in petroleum and natural gas royalties of \$72,307.30, and petroleum and natural gas fees, rentals, etc., of \$27,753.42. An examination of statement "H" will show the details of increases and decreases in all branches. It will be noted from statement "B" that the net revenue on income account for the year was \$2,821,784.73, an increase of \$68,625.73.

The total expenditure on income account amounted to \$861,907.08, an increase of \$54,958.67. This increase was due to additional salary expenditures of \$43,151.31, increased grants for coyote and wolf bounties of \$26,970.40, and increased travelling expenses of \$15,926.83. However, this was partially offset by a decrease in wages paid of \$11,471.96 and to decreased fire-fighting costs of \$18,279.34. It should be noted that the total fire-fighting costs were only \$18,887.82 for the period under review.

Combined collections from Special Areas and Special Districts amounted to \$674,346.65, an increase of \$131,284.33. This was mainly due to an increase of \$85,424.22 in Special Areas cultivation lease rental collections, and to \$34,504.74 in Special Districts tax collections. The combined expenditures for this year's operations were \$260,730.48, and were all paid from funds in the Special Areas and Special Districts Trust Accounts. Details will be found in statements "E", "F" and "G".

INDEX TO STATEMENTS

- A.—Statement of Receipts from All Sources.
- B.—Statement of Receipts Income Account.
- C.—Statement of Receipts Capital Account.
- D.—Statement of Receipts and Disposition of Agricultural Advances.
- E.—Special Areas Trust Account Statement of Receipts and Payments.
- F.—Special Districts Trust Account Statement of Receipts and Payments.
- G.—Statement of Receipts, Special Area and Special District.
- H.—Statement of Receipts, by Branches.
- I.—Statements of Receipts, School Lands Branch.
- J.—Alberta School Lands Trust Fund Balance Sheet.
- K.—Alberta School Lands Sales Revenue Account.
- L.—Statement of Collections on Tax Recovery Lands.

DEPARTMENT OF LANDS AND MINES

STATEMENT A.

STATEMENT OF RECEIPTS FROM ALL SOURCES

From April 1, 1943 to March 31, 1944

	Gross Receipts	Refunds	Net Revenue
Income Account	\$2,902,221.40	\$ 80,456.73	\$2,821,764.67
Capital Account	15,947.62	136.70	15,810.92
Reimbursement of previous year's expenditures	103.10	.....	103.10
School Lands Trust Fund	294,147.42	1,224.00	292,923.42
Special Areas and Special Districts	681,208.18	6,861.53	674,346.65
Unapplied receipts	418,716.40	326,147.77	92,568.63
Tax Recovery	96,818.40	352.03	96,466.37
Improvements	3,992.66	1,399.51	2,593.15
Land patents cultivation crop shares	3,301.94	.....	3,301.94
School lands cultivation crop shares	57,780.14	.....	57,780.14
Grazing permits, fees, rentals, etc.	30,676.47	.....	30,676.47
	<u>\$4,504,913.73</u>	<u>\$ 416,578.27</u>	<u>\$4,088,335.46</u>

STATEMENT B.

STATEMENT OF RECEIPTS—INCOME ACCOUNT

From April 1, 1943 to March 31, 1944

INCOME ACCOUNT:

	Gross Receipts	Refunds	Net Revenue
Fisheries:			
Casual	\$ 192.31	.....	\$ 192.31
Fishing licences	16,620.00	\$ 20.00	16,600.00
Angling permits	13,772.44	1,395.66	12,376.78
Boat licences	25.00	.....	25.00
Game Branch:			
Casual	395.94	.....	395.94
Game licences	73,549.62	5,311.20	68,238.42
Trap line permits	18,358.88	20.00	18,338.88
Sale of fur	5,820.96	488.80	5,332.16
Fur tax	83,278.16	3,354.11	79,924.05
Lands and Grazing Branch:			
Casual	12,352.50	116.90	12,235.60
Grazing permits, fees, dues, etc.	112,814.39	407.38	112,407.01
Hay permits, fees, dues, etc.	4,717.69	394.89	4,322.80
Agricultural fees, rentals, etc.	1,717.36	246.50	1,470.86
Improvement collections fees	843.03	.....	843.03
General sales interest	2,890.56	.....	2,890.56
Cultivation permits, fees, rentals, etc.	18,933.23	4,753.31	14,179.92
Surface rentals	2,710.06	.....	2,710.06
Timber Branch:			
Casual	6,789.50	.....	6,789.50
Timber fees, dues, rentals, etc.	848,727.97	12,410.61	836,317.36
Mining Lands Branch:			
Casual	36,164.00	47.05	36,116.95
Coal permits, fees, dues, etc.	89,094.39	804.72	88,289.67
Coal royalties	239,590.96	.....	239,590.96
Coal Mines Act sundry revenue	5,128.85	5.00	5,123.85
Petroleum and natural gas fees, rentals, etc.	244,555.18	4,696.13	239,859.05
Petroleum and natural gas royalties	507,549.87	4,024.05	503,525.82
Mineral Tax	102,159.43	84.28	102,075.15
School Lands Branch:			
Interest on sales	140,501.75	1.49	140,500.26
Miscellaneous	296,506.15	41,681.09	254,825.06
Miscellaneous:			
Casual	10,577.50	168.56	10,408.94
Services and supplies	2,734.61	.....	2,734.61
Reimbursement of salaries and expenses	2,884.11	.....	2,884.11
Tax recovery office fees	265.00	25.00	240.00
Total (carried to Statement A)	<u>\$2,902,221.40</u>	<u>\$ 80,456.73</u>	<u>\$2,821,764.67</u>
Special Districts (carried to Statement D):			
1936 seed grain interest .....	.04	.....	.04
1936-37 feed and fodder interest	8.14	.....	8.14
1937-38 feed and fodder interest	7.16	.....	7.16
1938-39 feed and fodder interest	7.99	3.27	4.72
TOTAL INCOME ACCOUNT	<u>\$2,902,244.73</u>	<u>\$ 80,460.00</u>	<u>\$2,821,784.73</u>

STATEMENT C.

STATEMENT OF RECEIPTS—CAPITAL ACCOUNT

From April 1, 1943 to March 31, 1944

	Gross Receipts	Refunds	Net Revenue
Land sales principal	\$ 15,947.62	\$ 136.70	\$ 15,810.92

STATEMENT D.

STATEMENT OF RECEIPTS AND DISPOSITION OF AGRICULTURAL ADVANCES

From April 1, 1943 to March 31, 1944

Receipts:		
Gross receipts		\$ 9,326.92
Refunds		41.76
Net to Statement G		<u>\$ 9,285.16</u>

ACCOUNTING DIVISION

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Disposition:	Principal	Interest	
1937 Seed grain implemented loan account	\$ 1,630.72	\$ 4.55	To Provincial Treasurer
1936 Seed grain	697.14	.04	To Provincial Treasurer
1938 Agricultural advances	5,480.54	28.32	To be forwarded to Provincial Treasurer
1939 Agricultural advances	51.66	.....	To Provincial Treasurer
1936-37 Feed and fodder	60.13	8.14	To Provincial Treasurer
1937-38 Feed and fodder	873.57	7.16	To Provincial Treasurer
1938-39 Feed and fodder	438.47	4.72	To Provincial Treasurer
	<u>\$ 9,232.23</u>	<u>\$ 52.93</u>	
		\$ 9,232.23	
		52.93	
		<u>\$ 9,285.16</u>	

STATEMENT E.

STATEMENT OF RECEIPTS AND PAYMENTS
SPECIAL AREAS TRUST ACCOUNT

For the year ended March 31, 1944

Cash in bank, March 31, 1943	\$ 265,287.35
Receipts:	
Cultivation rentals	\$ 141,674.28
Grazing rentals	75,172.69
Equipment rentals, 1943	29,929.77
Sale of improvements	12,685.33
Bank interest	2,164.01
Reimbursement of Special Districts items charged to Special Areas Trust during the year ending March 31, 1943	1,478.80
Miscellaneous	4,316.87
	<u>267,421.75</u>
	\$ 532,709.10
Payments:	
Equipment, maintenance	\$ 30,617.05
Community pastures	7,920.83
Construction of dams	252.08
Grass seed	1,493.88
Purchase of equipment	300.00
Miscellaneous	413.26
	<u>40,997.10</u>
Cash in bank, March 31, 1944	\$ 491,712.00

STATEMENT F.

STATEMENT OF RECEIPTS AND PAYMENTS
SPECIAL DISTRICTS TRUST ACCOUNT

For the year ended March 31, 1944

Cash in bank, March 31, 1943	\$ 222,463.72
Receipts:	
General tax collections	\$ 349,780.42
School land cultivation crop share	7,892.46
Funds transferred from municipal districts bank accounts	5,242.84
Reimbursement of Special Areas items charged to Special Districts Trust during the year ending March 31, 1943	2,876.55
Arrears of hospital requisitions, refund from Dept. of Municipal Affairs	1,163.51
Bank interest	1,084.47
Miscellaneous	1,463.50
	<u>369,503.75</u>
	\$ 591,967.47
Payments:	
School requisitions, 1943	\$ 117,526.59
Maintenance of roads	46,674.03
Hospital requisitions, 1943	21,307.88
Blind pensions, 1943	142.68
Direct relief	192.26
Mothers' allowance	5,263.17
Old age pensions, 1943	7,491.81
Provincial mental hospital	945.52
Provincial training school	585.00
Hospital requisition (arrears)	8,816.15
Liquidation of debentures of former school districts in Special Areas	5,019.78
Land titles office fees	3,073.60
Maintenance of offices	676.94
Pests and weeds	512.53
Miscellaneous	1,505.44
	<u>219,733.38</u>
Cash in bank, March 31, 1944	\$ 372,234.09

STATEMENT G.

STATEMENT OF RECEIPTS
SPECIAL AREAS AND SPECIAL DISTRICTS

From April 1, 1943 to March 31, 1944

	Gross Receipts	Refunds	Net Revenue
TAXES:			
General Tax—Statement F	\$353,071.50	\$ 3,291.08	\$349,780.42
Social Service Tax	50,654.31	12.39	50,641.92
Reporting School Tax	7,063.29	.....	7,063.29
Refunded to School Districts	\$ 6,710.08		
5% commission to Special Districts Trust Account	353.21		
Total collections	\$ 7,063.29		
Hail Tax	4,608.40	.....	4,608.40
Refunded to Hail Board	\$ 4,377.98		
5% commission to Special Districts Trust Account	230.42		
Total collections	\$ 4,608.40		
TOTAL TAX COLLECTIONS	\$415,397.50	\$ 3,303.47	\$412,094.03
Special Districts bank interest—Statement F	1,084.47	.....	1,084.47
Special Districts miscellaneous—Statement F	1,281.73	401.86	879.87
Statement F	\$ 1,463.50		
Less: Reporting school commissions	353.21		
Less: Hail tax commissions	230.42		
.....	\$ 879.87		
Special Areas Trust Receipts	239,127.62	3,114.44	236,013.18
Statement E	\$267,421.75		
Less: Equipment rentals 1943	29,929.77		
Less: Recoverable advances	1,478.80		
.....	\$236,013.18		
Agricultural Advances, Statement D	9,326.92	41.76	9,285.16
1938 agricultural advances, forwarded from previous year	14,890.94	.....	14,890.94
Collections for Department of Agriculture:			
Horse vaccine	96.00	.....	96.00
Brans and sawdust	3.00	.....	3.00
.....	\$681,208.18	\$ 6,861.53	\$674,346.65

STATEMENT H.

STATEMENT OF RECEIPTS BY BRANCHES

For the Fiscal Years ending March 31, 1943 and March 31, 1944

INCOME ACCOUNT:

	Fiscal year ending March 31, 1943	Fiscal year ending March 31, 1944
Fisheries Branch	\$ 21,975.49	\$ 29,194.09
Game Branch	157,280.99	172,229.45
Lands and Grazing Branch	161,376.91	151,059.84
Timber Branch	774,172.70	843,106.86
Mining Lands Branch	1,215,777.93	1,112,506.30
Mineral Tax	94,364.68	102,075.15
School Lands Branch	311,612.10	395,325.32
Miscellaneous	16,331.46	16,267.66
CAPITAL ACCOUNT:		
Land Sales Principal	11,100.94	15,810.92
TRANSFERRED TO OTHER DEPARTMENTS	200.00	103.10
SCHOOL LANDS TRUST FUND	145,341.71	292,923.42
SPECIAL AREAS AND SPECIAL DISTRICTS:		
Taxes	377,589.29	412,094.03
Special Districts bank interest	595.67	1,084.47
Special Districts miscellaneous	3,268.69	879.87
Special Areas receipts	144,146.71	236,013.18
Agricultural advances	5,012.78	9,285.16
1938 Agricultural advances forwarded from previous year	12,393.68	14,890.94
Horse vaccine	33.00	96.00
Brans and sawdust	22.50	3.00
UNAPPLIED RECEIPTS CARRIED FORWARD:		
Suspense	176,446.42	189,035.00
Improvements	2,331.15	2,593.15
Land patents cultivation crop shares	1,944.24	3,301.94
School lands cultivation crop share	17,332.52	57,780.14
Grazing permits, fees, rentals, etc.	5,705.66	30,676.47
.....	\$3,656,357.22	\$4,088,335.46

ACCOUNTING DIVISION

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STATEMENT OF RECEIPTS
SCHOOL LANDS BRANCH
April 1, 1943 to March 31, 1944

STATEMENT I.

	Receipts	Refunds	Net Revenue
INCOME ACCOUNT:			
Sales: interest	\$ 140,501.75	\$ 1.49	\$ 140,500.26
Grazing fees, rentals, etc.	18,582.20	30.33	18,551.87
Hay permits, fees, dues, etc.	893.70	30.00	863.70
Cultivation permits, fees, dues, etc.	146,814.59	39,498.00	107,316.59
Surface rentals	517.49	15.00	502.49
Miscellaneous rentals	1,081.27		1,081.27
Timber permits, fees, dues, etc.	35,014.88	1,066.67	33,948.21
Coal permits, fees, dues, etc.	5,450.99	379.80	5,071.19
Coal royalty	19,732.99		19,732.99
Petroleum and natural gas fees, rentals, etc.	17,384.04	636.29	16,747.75
Petroleum and natural gas royalties	46,862.33		46,862.33
Miscellaneous	4,171.67	25.00	4,146.67
	<u>\$ 437,007.90</u>	<u>\$ 41,682.58</u>	<u>\$ 395,325.32</u>
TRUST ACCOUNT:			
School lands sales principal	294,147.42	1,224.00	292,923.42
	<u>\$ 731,155.32</u>	<u>\$ 42,906.58</u>	<u>\$ 688,248.74</u>

ALBERTA SCHOOL LANDS TRUST FUND
BALANCE SHEET—MARCH 31, 1944

STATEMENT J.

ASSETS		
Cash in bank and on hand		\$ 138,050.04
Investments:		
Dominion of Canada debentures	\$10,675,183.06	
Accrued interest	221.92	
		10,675,404.98
Accounts receivable:		
Undue principal	\$ 384,852.22	
Arrears principal	649,318.82	
		1,034,171.04
		<u>\$11,847,626.06</u>
LIABILITIES		
Alberta school lands trust fund		<u>\$11,847,626.06</u>

ALBERTA SCHOOL LANDS SALES
REVENUE ACCOUNT

STATEMENT K.

April 1, 1943 to March 31, 1944		
Arrears interest as at March 31, 1943	\$ 348,657.65	
Interest charges	63,411.46	
Interest revenue		\$ 140,500.26
Interest on cancelled sales written off		27,692.59
Interest reductions granted by School Lands Board		4,166.19
Arrears interest as at March 31, 1944		239,710.07
	<u>\$ 412,069.11</u>	<u>\$ 412,069.11</u>

STATEMENT OF COLLECTIONS ON TAX RECOVERY LANDS
April 1, 1943 to March 31, 1944

STATEMENT L.

Grazing permits	\$ 3,503.58
Grazing rentals	3,774.69
Improvements	10.00
Sales principal	1,796.80
Sales interest	59.44
Cultivation permits	112.50
Cultivation rentals	956.79
Cultivation crop shares	10,221.76
Wheat acreage reduction bonus	711.64
Miscellaneous leases	119.32
Miscellaneous use permits	5.00
Miscellaneous sale of improvements	888.58
Sundry revenue	128.37
	<u>\$ 22,288.47</u>
Tax recovery office fees	240.00
	<u>\$ 22,528.47</u>

Special Areas Administration

REPORT OF SPECIAL AREAS BOARD FOR THE FISCAL YEAR ENDING MARCH 31st, 1944

During the year covered by this report the following permits were issued: Cultivation 732, representing 133,030 acres of cultivated land, 70,545 acres of uncultivated; Provincial Land Grazing Permits numbering 1,662, covering 854,951 acres, and School Lands 610, covering 257,359 acres; Hay Permits 124, representing 1,726 tons of hay; 25 Feed Permits and 321 Head Tax Permits, covering 4,462 head of cattle and 1,201 horses. Revenue derived from the above is shown in Cash Statement.

We had in operation six head tax pastures, namely: Bull Pound, Remount, Buffalo-Atlee, Sounding Creek, Lomond and Iddesleigh. These pastures covered an area of 249,470 acres.

Because of the changing condition in regard to the demand for both pasture and cultivated land and also the great amount of field work involved, the preparation of long term leases did not go ahead as rapidly as was intended. However, 211 long term grazing leases were recommended for issue and forwarded to the Department of Lands and Mines at Edmonton. A total of 106 long term 6 and 20-year Cultivation Leases were also passed by the Board.

A number of exchanges of land were completed under the policy of exchanging provincially owned land for the private lands.

The grass seed crop was poor in 1943 due to drouth. The only fields worth harvesting were one south of Oyen and another south of Sibbald. These fields, along with a few other small lots, supplied 20,630 pounds after cleaning of Crested Wheat grass seed, the average cost being 3.46c per pound, including costs of combining and trucking to the Special Areas plant at Youngstown. This amount, together with a carry-over from 1942 of 13,156 pounds, made a total of 33,786 pounds of Crested Wheat grass seed; 22,468 pounds were distributed during the year to 94 lessees of public lands, leaving 11,318 pounds in store January 1st, 1944.

No Brome grass seed was harvested by the Special Areas Board during 1943, consequently 8,000 pounds were bought which, with 3,005 pounds on hand, made a total of 11,005 pounds of Brome; 6,425 pounds of Brome were distributed to 33 lessees of public land in 1943, leaving 4,580 pounds in store January 1st, 1944.

Total grass seed distributed during 1943 was 28,893 pounds, which seeded about 3,750 acres of public land to Crested Wheat and 650 acres to Brome. This includes a small amount in the Sounding Creek community pasture and the seed used to sow a 280 acre seed production field, south of Chinook.

The Lethbridge Experimental Farm kindly offered to supply Crested Wheat seed for the sowing of drifting lands in the southern part of Bow West, immediately north of Taber, but this seed is not included in the above report.

All requests for seed were fulfilled, but the demand was not as great as in former years, because of the dry season and shortage of labour.

Under the Wheat Acreage Reduction Act some 905 statements of claim were received.

It will be noted in last year's report that the Cessford Irrigation Project was begun in the late summer of 1942. This was a joint scheme entered into with the P.F.R.A. and the Special Areas, whereby some 1,500 acres of land might be brought under irrigation in the Cessford district.

Work on this project was again taken up in the spring of 1943, when 14 miles of main canal and 12 miles of lateral ditches were completed, proper flood gates installed and dams constructed. About 20 miles of light grade were also built here to facilitate the travel in this immediate district. On January 27th, 1944, a meeting was held in the Special Areas office at Hanna to discuss and arrive at a plan to further develop this project. Present at this meeting were Mr. Palmer and Dr. Fairfield, representing the P.F.R.A.; Mr. V. A. Wood, Director of Lands, Department of Lands and Mines; Messrs. Baldwin, Graham and McBeath of the Special Areas; and Mr. K. H. Walker, District Agriculturist.

Since the possibility of irrigation and stock watering would appear feasible, members of this committee were anxious that the project be given a fair chance at success.

Various projects were gone over in an attempt to arrive at the best method of development, the following recommendations being arrived at:

Recommendation re Operation of Cessford Irrigation Projects

1. That the Cessford irrigated project be utilized as far as possible to stabilize grazing ranch land, and that a grazing lease should be co-ordinated with the parcel of irrigated land allocated to any particular person; that is, to tie the two in as a farm ranch unit. Further, that the lessee be encouraged to establish his home place on the irrigated lands.

2. That the Special Areas assume the obligation of the expense for operation and maintenance for two years, that the Board assume responsibility of management of operation and maintenance in 1944, and that before the 31st of December, 1944, a Water Users' Association or other satisfactory organization be set up in the district under the supervision of the Board, this association to assume the responsibility of management for 1945, with the exception of financing, which will be carried by the Special Areas Board for that year. For 1946 and thereafter the Association would assume full responsibility of management and financing operation and maintenance.

The Dominion Experimental Station at Lethbridge will endeavour to secure a competent irrigator to be at Cessford this season, contingent upon their being able to secure a satisfactory man. He will do work assigned by the Experimental Station and will be prepared to survey field ditches and to instruct the Board's ditch rider in connection with the maintenance of ditches and distribution of water. In the surveying of farm ditches, and other work, the ditch rider will furnish the necessary transportation.

4. The Special Areas Board will engage a ditch rider whom it wishes trained as a permanent man for that purpose.

5. That not more than 110 irrigable acres be allocated to each water user.

6. That this irrigation project be used primarily for the growing of feed.

7. *Tenure.*—It is proposed that the lease of project lands be for a term of 20 years, subject to review every five years. It is further proposed that after the lease has been in operation for two years, it will be subject to cancellation by the Minister, unless the lessee is complying with correct irrigation practices and is making satisfactory progress.

8. *Rental:*

- (a) That no rental will be charged for the first two years other than the regular grazing rental.

- (b) At the discretion of the Minister, a portion of the rental may be waived in any particular season where a small crop results from an insufficient supply of irrigation water.

- (c) That the rate of rental should be 50c per acre on the irrigable acreage, this rental to be subject to revision for the crop year of 1950.
- (d) Patented lands should be charged water rental of 50c per acre, less the general tax levy, subject to revision as specified above, this in addition to cost of operation to be assumed by water users' associations as hereinbefore provided.

Our road outfits built 107 miles of heavy standard grade, 31 miles of elevated road, recrowned 177 miles and maintained 972 miles. In addition to the above, a considerable mileage of road was gone over with tiller and made into light grade, 62 culverts were installed, 4 bridges built, three bridges re-decked and many others repaired by our bridge crew. A total of \$20,804.71 was spent on local labour on roads, under the supervision of local foremen.

Our D4 bulldozer worked 1,728 hours on fills, approaches to bridges, washouts, culverts, etc. The balance of the time was spent in connection with the Cessford Dam.

The great need for better roads in this area is one of the pressing problems with which we have to deal. The machinery which we have at present is altogether inadequate to cope with the situation which exists, and it is almost impossible to obtain additional machinery at this time.

The following table contains a cash statement for the fiscal year 1943-44. The Special District Trust Account represents the collections and disbursements of moneys collected from privately owned lands, the Special Areas Trust Account deals with public lands.

SPECIAL AREAS ADMINISTRATION

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GOVERNMENT OF THE PROVINCE OF ALBERTA
DEPARTMENT OF LANDS AND MINES
SPECIAL AREAS AND SPECIAL DISTRICTS
CASH STATEMENT FOR THE FISCAL YEAR 1943-1944
(Ending March 31, 1944)

CASH ON HAND MARCH 31, 1943 AND REVENUE FOR YEAR 1943-44:

Cash in Bank March 31, 1943—Special Districts Trust Account	\$ 265,287.35	
Cash in Bank March 31, 1943—Special Areas Trust Account	222,463.72	
		\$ 487,751.07
Bank Interest Special Districts Trust Account	\$ 1,084.47	
Bank Interest Special Areas Trust Account	2,164.01	
		3,248.48
General Tax		349,780.42
Social Service Tax		50,641.92
1944 Special Areas Collections		233,873.25
Miscellaneous		14,598.80
Interest collected on Agricultural Advances		20.16
Moneys refunded from Dept. of Municipal Affairs re arrears of Hospital Requisitions		1,163.51
Appropriation No. 1134		59,330.93
Appropriation No. 1181		19,512.06
Department of Education Special Grant		40,000.00
Road Maintenance applied on Taxes		17,945.17
Road Maintenance applied on Relief		168.92
Recoverable Advances—Special Areas		1,454.32
Recoverable Advances—Special Districts		2,830.35
Total		\$1,282,319.36

PAYMENTS FOR YEAR 1943-44:

Social Service Taxes		50,641.92
Interest on Agricultural Advances		20.16
Administration Costs		59,330.93
School Requisitions	\$157,526.59	
Liquidation of Debentures of former School Districts	5,019.78	
		162,546.37
Hospital Requisitions		30,124.03
Medical Relief	\$ 13,912.26	
Doctors' Contracts	5,599.80	
		19,512.06
Direct Relief		192.26
Old Age Pensions		7,491.81
Blind Pensions		142.68
Mothers' Allowance		5,263.17
Provincial Mental Hospital		945.52
Provincial Training School		585.00
Public Works:		
Road Diversions	\$ 180.96	
Power Machinery (Gas, Oil and Repairs)	12,913.61	
Power Machinery Operator's Wages	12,266.24	
Youngstown Shop	5,437.20	
Local Labour:		
Road Maintenance Cash	\$ 16,091.41	
Road Maintenance applied on Taxes	17,945.17	
Road Maintenance applied on Relief	168.92	
Horsedrawn Machinery, Repairs	471.89	
		65,475.40
Purchase of Equipment		300.00
Land Titles Office Fees		3,073.60
Maintenance of Offices		676.94
Pests and Weeds		512.53
Community Pastures		7,920.83
Construction of Dams		252.08
Grass seed		1,493.88
Miscellaneous		1,872.10

Total Payments.....\$ 418,373.27

Cash Balance.....\$ 863,946.09

CASH BALANCE

Special Districts Trust Account	\$ 372,234.09
Special Areas Trust Account	491,712.00
	\$ 863,946.09

1943 LEVIES:

General Tax	\$ 261,437.76
Social Service Tax	32,162.21
	293,599.97

ASSESSMENTS

	Area (in acres)	Land	Minerals	Improvements
1942	2,480,253	\$10,366,822.00	\$ 7,120.00	\$ 939,541.00
1943	2,508,494	9,547,731.00	90,640.00	1,000,351.00
				10,368,722.00

J. HARVIE, Deputy Minister,
Department of Lands and Mines.

